2. Propositional Act Constructions: The Skeleton of a Sentence

2.1. Propositional acts: semantic classes and information packaging

We now turn to the first set of grammatical comparative concepts to be formally introduced in this textbook and the grammatical terms we will use for them. Table 2.1 presents the comparative concepts for the propositional act constructions, that is, the constructions expressing the three propositional acts of reference, modification and predication; and the three basic semantic classes of objects, properties and actions, which were illustrated with English examples in Table 1.1 at the beginning of §1.3.

<table>
<thead>
<tr>
<th>Semantic class</th>
<th>Propositional act</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>reference</td>
<td>modification</td>
<td>predication</td>
</tr>
<tr>
<td>object</td>
<td>referring/argument phrase</td>
<td>nominal modifier phrase</td>
<td>predicate nominal</td>
</tr>
<tr>
<td></td>
<td>head: noun</td>
<td></td>
<td></td>
</tr>
<tr>
<td>property</td>
<td>deadjectival nominal</td>
<td>attributive phrase</td>
<td>predicate adjectival</td>
</tr>
<tr>
<td></td>
<td>head: adjective</td>
<td></td>
<td></td>
</tr>
<tr>
<td>action</td>
<td>complement (clause)</td>
<td>relative clause</td>
<td>(verbal) clause</td>
</tr>
<tr>
<td></td>
<td>head: verb</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 2.1. Grammatical constructions for combinations of three basic semantic classes and the three major propositional act (information packaging) functions

We will illustrate the semantic classes and propositional acts with the sentence in (1):

(1) I wrote a long letter.

We begin by describing the semantic classes listed in the leftmost column of Table 2.1. The object (sem) category, represented by I and letter in (1), include both persons and things (i.e. human, animate and inanimate objects). These and other subtypes of the object semantic class will be discussed in greater detail in §3.1.2. Objects are also nonrelational (sem): they do not inherently make reference to other entities in their definition but “exist in themselves”. Object categories are stative (sem), that is, being a letter doesn’t involve change over time. Finally, object categories are persisting (sem), that is, the identity of an object is construed as lasting for the lifetime, or at least the relevant life stage, of an object; for further discussion of the construal of persistence, see §4.1.2.

Actions (sem), illustrated by wrote in (1), are the opposite of objects in all of these semantic features. Actions are relational (sem), that is, an action exists by virtue of being an action performed by someone or something. Actions are dynamic (sem), that is, change occurs, unlike object identity, which is stative. Finally, actions are also transitory (sem), that is, they do not persist.
Properties (sem), illustrated by long in (1), are intermediate between objects and actions semantically in that they have some semantic features of objects but others of actions. Like actions, properties are relational: length does not exist itself; length is length of something, in this case a letter. Like objects, however, properties are stative: being long does not change over time. The most prototypical properties are persisting as well; (but see §4.1.2 for further discussion). We will subsume relational concepts, including actions and properties, under the term event (sem). Finally, if we want to refer to any or all of the semantic classes in general, we will use the term entity (sem).

A taxonomy of these semantic classes (also called an ontology (sem)) is given in Figure 2.1. The three semantic classes associated with the traditional definition of noun, adjective and verb are given in boldface.

![Figure 2.1. Ontology of major semantic classes.](image)

The three semantic classes in Table 2.1 and Figure 2.1 do not exhaust all of the possible types of entities. There are, for example, stative relational concepts that are transitory, such as liking something and being sick. These are often called transitory states. There also concepts denoting persons that are called ‘relational’, in particular kins terms such as ‘mother’: the object category of ‘mother’ is always defined as the mother of someone. However, mother refers to one person in the relationship, unlike true relational concepts such as love, which refers to the emotional bond between two people, not either one of the persons. We will discuss many of these semantic classes other than objects, properties and actions in later chapters. The importance of the three semantic classes in Table 2.1 and Figure 2.1 pertains to their role in defining ‘noun’, ‘verb’ and ‘adjective’, in relation to the major propositional acts.

We now turn to the propositional acts listed in the first row of Table 2.1. The definitions of the three propositional acts presented in §1.3 are repeated below:

**reference (inf)** - what the speaker is talking about

---

1 The term ‘event’ has been used in many different ways, like most technical terms in linguistics. Our definition is one of the common uses but differs from other common uses. Other terms that are used like we use ‘event’ are ‘eventuality’, ‘situation’ and ‘state of affairs (SOA)’. 
predication (inf) - what the speaker is asserting about the referents in a particular utterance
modification (inf) - additional information provided about the referent

A metaphor that has been used by linguists from several different theoretical approaches to propositional act functions is the file metaphor (e.g. Heim 1983; Givón 1983; DuBois 1987:817; Croft 1991:123; Stassen 1997:102; see §6.1). We will use it here to describe the information packaging functions of the propositional act constructions. The act of reference (inf) opens and/or accesses a discourse file for a referent (inf). The pronoun I is used to access an existing discourse file for whoever is the speaker, while a long letter creates a new discourse file.

Predication (inf) is the act of asserting something that applies to that referent or those referents; hence predication adds information to the referent’s discourse file. Wrote asserts a relationship between the two referents, myself and the letter, and so adds information to those referents’ files (one thing about me is that I wrote a letter; one thing about the letter is that I wrote it).

It is common to describe the referent(s) which the predication is predicated of as arguments (inf). For the most part, ‘argument’ is synonymous with ‘referent’, but there are instances in spoken discourse where a referent is expressed without it being an argument of a predicate; it is a “stand-alone” referent. We will discuss some examples of “stand-alone” referents in §10.4.3, but until then, ‘argument’ can be assumed to be synonymous with ‘referent’.

Finally, modification (inf) enriches the discourse file of a referent in some way. Long enriches the information in the discourse file opened for letter. The information it adds to the discourse file therefore is of a secondary nature. Further description of the modification information packaging function is found in §4.1.

The nine cells in Table 2.1 that are not part of the first column (the semantic classes) or the first row (the information packaging functions) are constructions. They all name the morphosyntactic forms that express the combination of semantic class from the relevant row, and information packaging function from the relevant column. We begin by describing the constructions on the diagonal from upper left to lower right, which we suggested in §1.3 are the basis for a crosslinguistically valid definition of noun, adjective and verb. But we will need to describe the constructions in these three cells on the diagonal before defining noun, adjective and verb.

2.2. The major propositional act constructions and their structure

2.2.1. Anatomy of a construction: wholes and parts, and heads and dependents

Constructions are potentially complex, that is, the construction consists of more than one element or role (§1.1). For example, the old doctor is a construction made up of three elements: the, old and doctor; very old is a complex construction made up of two elements, very and old; and quickly walked off is a complex construction made up of three elements, quickly, walked and off. That is, a construction is a whole made up of parts, namely the elements.
The elements of a complex construction are often single words, as in the preceding examples. But some elements are themselves complex constructions made up of further elements. For example, a letter [to the editor] is a complex construction made up of a, letter and to the editor; the last element is itself a complex construction made up of to, the and editor. And She ate [a very large cookie] is a complex construction made up of She, ate and a very large cookie; the last element is itself a complex construction made up of a, very, large and cookie.

More generally, then, a construction is made up of parts—the elements. Elements may themselves be made up of parts, and so on. This is all the structure of a construction’s form that is necessary for the constructional analysis in this textbook (for a detailed argument in support of this simple anatomy of constructional form, see Croft 2001, chapters 5-6).

In many, though not all, constructions, there is a single element that has a special status. The head (cxn) of a construction is essentially the most contentful word that most closely denotes the same function as the phrase (or clause) as a whole. This is a functional definition of the head of a construction. There are also proposed syntactic definitions of a head. Although we will not go into the problems with a syntactic definition of ‘head’ here, they suffer from the same problems as syntactic definitions of other word classes, as described in §1.2. A syntactic head is defined by its occurrence in a particular construction or constructions in a language. The language-specific constructions used to define heads in different languages are different, and the different constructions used to define heads don’t pick out the same words as heads, even in a single language. Hence there is as much confusion about syntactic definitions of heads as there is about syntactic definitions of word classes. For this reason, we will use only the functional definition of ‘head’ given in this paragraph (for detailed argumentation for this position, see Croft 2001, chapter 7).

A functional head is defined by the combination of semantics and information packaging. Two constructions that convey roughly the same meaning may have different heads due to different packaging of that meaning. For example, the head of the tree that died is tree, because the tree that died is a referring expression, referring to a tree. But the head of the tree died is died, because the tree died is a predication about the tree asserting the change of state of the tree from alive to dead.

We will call the term ‘head’ a constructional term, although it actually names one element of a construction, not the construction as a whole. The reason for doing this is that the term ‘head’ describes a form, usually a single word, in terms of a combination of semantics and information packaging; and a construction is a form expressing a combination of semantics and information packaging.

Some constructions do not have a single word that more or less denotes the same function as the phrase as a whole. One common “headless” construction is coordination: in butterflies and dragonflies, neither butterfly nor dragonfly denotes anything close to what the referring phrase as a whole denotes, which is the group combining both types of insects. The structure of coordination constructions will be discussed further in chapter 14. Another common “headless” construction is one in which there is a modifier but no word denoting the referent: (My steak is large, but) Harry’s is larger. The phrase Harry’s refers to a steak, which is being modified as belonging to Harry; but there is no word in
the phrase that denotes the steak. Constructions with modifiers and no head will be discussed in §5.4.

The elements of a complex construction apart from the head are most generally called **dependents (cxn)**. Dependents are hence defined negatively: they are not heads. However, dependents have a semantic relation to the head and an information packaging relation to the head. These relations of function are part of what define different types of complex constructions, described in the next section.

### 2.2.2. Types of constructions: phrases and clauses

A construction that performs the act of reference is called a **referring phrase (cxn)**. A referring phrase should not be confused with a referent: a referring phrase is a construction, and a referent describes the information packaging of the concept being referred to. The complex construction **a long letter** is a referring phrase; its referent is the letter in question.

A referring phrase construction may also include concepts that function to modify the referent. Reference, as a propositional act, is basically nonrelational: reference simply serves to pick out a referent for the speaker and hearer. Modification, however, is basically relational: modification has to modify something, namely the referent. In **long letter**, the property of length is being used to modify the referent (the letter). Thus, a complex referring phrase typically consists of an element expressing the referent (**letter**), which is the head of the referring phrase; plus one or more elements modifying the head (**long**).

Modifiers may themselves be “modified”, by **admodifiers (cxn)** such as the **degree (sem)** admodifier **very**, as in **a very long letter**. In other words, modifiers may also be complex constructions. This complex construction is described as an **attributive phrase (cxn)**: that is, a possibly complex expression consisting of a modifier and admodifier(s); see §4.1.2 for further details.

It is also possible for admodifiers to occur in phrases themselves, with the “Boolean” words **not, and, or, or, but**: [very or somewhat] **long**; [somewhat but not very] **long**. However, the Boolean words also can be applied in other phrases. In **a green and blue dress** the Boolean words are part of an attributive phrase. In **not John but Susan**, the Boolean words are part of a referring phrase. We will however leave the Boolean words or “admodification phrases” to future editions of this textbook, and their cross-linguistic variation has not been explored in any detail.

The information packaging function of predication is also necessarily relational: predication asserts something about a referent. In **I wrote a long letter**, the writing process is predicated of me, and also of the letter, as noted in §2.1. The function of predication thus is associated with one or more referents—more precisely, arguments—although the arguments of a predicate are frequently not expressed grammatically. This bipartite structure is sometimes called the **topic-comment (inf)** function, ‘comment’ denoting the act of predication and ‘topic’ denoting what the predication is predicated of, that is, a referent. Hence a predication construction may also include multiple referring expressions. The term **predicate (cxn)** refers to the element functioning as the predication; this will be discussed shortly. A referring phrase is also called an **argument**
phrase (cxn) when it is syntactically combined with a predicate (compare §2.1 on referents and arguments).

The complex construction consisting of a predicate and the referent/argument phrase(s) it is predicated of is called a clause (cxn). A clause expresses the topic-comment information packaging type. Actually, the term ‘clause’ will also be used for constructions defined by two other information packaging types besides the topic-comment type, the thetic and identificational types. We will set aside the latter two types for now; they are described in chapters 10 and 11. Table 2.2 summarizes the terms for constructions (simple or complex) and the information packaging functions they express.

<table>
<thead>
<tr>
<th>Information packaging</th>
<th>Construction</th>
</tr>
</thead>
<tbody>
<tr>
<td>predication (also thetic, identificational)</td>
<td>clause</td>
</tr>
<tr>
<td>reference, referent, argument</td>
<td>argument phrase, referring phrase</td>
</tr>
<tr>
<td>modification</td>
<td>attributive phrase</td>
</tr>
<tr>
<td>admodification</td>
<td>(“admodification phrase”)</td>
</tr>
</tbody>
</table>

Table 2.2. Information packaging and constructions for the major propositional acts.

From Table 2.2, it can be seen that the term ‘phrase’ is used to describe a variety of constructions that are typically “smaller” than a clause. That is, phrases are elements of clauses (as with argument phrases), or they are elements of elements of clauses (attributive phrases), or even elements of elements of elements of clauses (“admodification phrases”, not discussed here).

This leaves one important type of construction not yet described here, in fact a type of construction that is not a part of traditional grammar terminology. In The soldier quickly walked off, it is generally agreed that an argument phrase such as the soldier is a dependent of the predicate walked: it denotes a participant in the event denoted by the predicate. But what about quickly and off? Many non-argument phrase elements in a clause, including words like quickly and off, are best analyzed as parts of the predicate. That is, predicates themselves may also be simple or complex constructions. Complex predicates (cxn) are predicates made up of multiple semantic components that are expressed by multiple morphosyntactic elements. In the example, the multiple semantic components are the manner of motion (walked), the speed of motion (walked) and the direction of motion (off).

Complex predicates are varied in the types of elements they are made up of, and so are described in their own chapters (chapters 13 and 14). The elements of complex predicates do not always form a contiguous syntactic unit (formal grouping)—they can be separated as in I sent them away. Therefore the combination of elements in a complex predicate is not generally described as a “phrase”; the term “phrase” is generally used for a contiguous group of words. Hence the term ‘complex predicate’ is used instead.
2.2.3. Noun, verb and adjective as comparative concepts: prototypical constructions

The cells on the diagonal from the upper left to the lower right in Table 2.1 are the most common or prototypical constructions (cxn), that is, constructions with the most common combinations of semantic class and propositional act (see §1.6), and form the basis of the comparative concepts that most closely correspond to the traditional major “parts of speech”, that is, noun, adjective, and verb. The comparative concepts are a combination of propositional act function (information packaging) and semantic class or type (semantics). Specifically, the major parts of speech are defined as the head of a referring phrase, attributive phrase and clause that also denote the prototypical semantic class along the diagonal in Table 2.1.

A noun (cxn) is the head of a referring phrase, that is, a noun is the word in a referring phrase that denotes an object being referred to. The word violin in the referring phrase an old violin is a noun: it is an object concept that is the head of the referring phrase. An adjective (cxn) is the head of an attributive phrase, that is, an adjective is the word in the attributive phrase that denotes a property being used for modification. The word new in a very new book is an adjective: it is a property concept that is the head of the attributive phrase very new and modifies book. A verb (cxn) is the head of clause, that is, a verb is the word in a clause that denotes an action that is predicated. The word jumped in the clause She jumped, is a verb: it is an action word that is the head of the clause and is predicated of She.

This definition of noun, verb and adjective as comparative concepts differs from the traditional grammar (and structuralist and generative grammar) definitions in two major ways. First, noun, verb and adjective as comparative concepts do not refer to word classes. Word classes are language-specific, and therefore cannot form the basis for a comparative concept. The term ‘noun’ refers to the filler of a role (head) in a construction defined in terms of semantics and information packaging (namely, object reference). The basis for the comparative concept ‘noun’ is functional, not formal. Like ‘head’ and ‘dependent’, ‘noun’, ‘verb’ and ‘adjective’ are (parts of) constructions.

Second, the comparative concept of ‘noun’ is restricted to object words only in referring expressions (specifically, as the head of the referring expression), the comparative concept of ‘adjective’ is restricted to property words only in attributive expressions, and the comparative concept of ‘verb’ is restricted to action words only in predications. For example, doctor in the old doctor fits the comparative concept of a noun, but doctor in I am not a doctor will not be described as a noun, because it is not the head of a referring expression; it is the head of a predicate nominal construction.

This restriction of the use of ‘noun’ may seem counterintuitive, because doctor looks like the same word in both the old doctor and I am not a doctor, and doctor in the predicate nominal construction takes the article a, and it can be inflected for number (They are not doctors). However, these are facts of English, not facts about predicate nominal constructions in general. In fact, we have already seen that the Classical Nahuatl translation equivalent ſocht doesn’t work the same way: it inflects in the same way that verbs—in our narrow sense of ‘verbs’ as heads of predications—do in that language (it inflects for the person and number of the subject argument phrase, and for negation).
If we want to be consistent across languages, then we must define constructions by their functions. Hence a noun is an object concept word functioning as the head of a referring expression, and nothing more.

If we don’t use the term ‘noun’ to describe doctor in I am not a doctor or tīcitl in (2), then we have to use a different term. Since it is an example of object predication—the upper right cell in Table 2.1—we will call both I am not a doctor and its Classical Nahuatl equivalent in (2) a predicate nominal construction, as in Table 2.1.

Some linguists would not call the inflecting strategy of the Classical Nahuatl construction in (2), a predicate nominal construction, because the Classical Nahuatl word is inflected like a verb, that is, like a predicated action word. These linguists would instead restrict the term ‘predicate nominal’ to copular or noninflecting strategies. In fact, one of the problems in interpreting reference grammars is that traditional grammatical terms are sometimes used for constructions in the comparative sense, and sometimes for a strategy, typically the strategy found in English or a European language. Since the English predicate nominal construction uses a copula strategy, many linguists use the term ‘predicate nominal’ only for constructions for object predication that use the copular strategy. For us, however, all of the terms in Table 2.1 apply to constructions, not strategies, so they are defined solely in functional terms, and not by formal grammatical characteristics such as the presence of a copula.

The typical analysis for these predicate nominal constructions is to assume that doctor in I am not a doctor is a “noun” in English, but tīcitl in ah-ni-tīcitl is a “verb” in Classical Nahuatl. This leads to the problematic statements discussed in §1.2, such as “nouns are verbs in Classical Nahuatl”. But we now have a way to be explicit about what is really going on in Classical Nahuatl, and to avoid the problematic formulations cited in §1.2. First, the word classes of a particular language are language-specific. There is nothing preventing us from saying doctor in I am not a doctor is an English Noun, but tīcitl in ah-ni-tīcitl is a Classical Nahuatl Verb. It is possible for language-specific word classes to cut across grammatical constructions defined as comparative concepts.

Both descriptions are telling us something about the two languages and their grammatical relationship to each other. Both languages express the predication of an object concept. This is indicated by saying that both the English and Classical Nahuatl constructions are instances of the same construction, namely the predicate nominal construction, and moreover saying that the object concept word in each language (doctor and tīcitl) are the heads of their respective constructions.

But English and Classical Nahuatl use different strategies, which makes the object concept word look more like the noun construction in English, but more like the verb construction in Classical Nahuatl. That is, the strategy chosen in English for the predicate nominal construction is related to the English strategy for object reference, while the strategy chosen in Classical Nahuatl for the predicate nominal construction is related to the strategy in Classical Nahuatl for action predication. This is the interesting difference between English and Classical Nahuatl, and will be discussed further in §2.4.
It is very important to keep distinct the descriptions of language-specific categories, semantic categories, and information packaging categories. Doing so requires consistent use of terminology, the consistent capitalization of terms for language-specific constructions, and in some cases, the invention of new terms. This seems somewhat excessive in comparison to traditional grammatical analysis. It is, however, necessary in order to avoid the sorts of contradictory-seeming statements such as those described in §1.2, and the confusion they create.

2.2.4. More on the structure of propositional act constructions

In §2.2.3, we presented noun, adjective and verb as comparative concepts, specifically as the head of a referring phrase, attributive phrase and clause respectively, which also denote objects, properties and actions respectively; see the diagonal from upper left to lower right in Table 2.1. However, not all heads of referring phrases denote objects: in *Hiking is fun*, the subject argument phrase *hiking* denotes an action, not an object. Likewise, not all heads of attributive phrases denote properties: in *fifty trees*, the attributive phrase *fifty* denotes a number (cardinality), not a property. Finally, not all heads of clauses denote actions: in *She loves classical music or He is a doctor*, the head of the clause *loves or (is a) doctor* denotes a state and an object respectively.

Hence we need terms to describe the head of any argument phrase, any attributive phrase, and any clause. The term *predicate (cxn)* is commonly used for all types of heads of clauses, not just actions. And the term *modifier (cxn)* is commonly used for (almost) all types of heads of attributive phrases, not just properties. There is, however, no widely used term for all types of heads of referring phrases, not just objects. The term ‘referent’ is the logical choice, but it is used widely for the function (the entity being referred to), and we will respect that common usage. For this reason, we have to coin the rather unwieldy term *referent expression (cxn)* for the last function.

The major terms for heads of constructions are listed in Table 2.3.

<table>
<thead>
<tr>
<th>Construction</th>
<th>Head of construction (prototype)</th>
<th>Head of construction (general)</th>
</tr>
</thead>
<tbody>
<tr>
<td>clause</td>
<td>verb</td>
<td>predicate</td>
</tr>
<tr>
<td>argument phrase, referring phrase</td>
<td>noun</td>
<td>referent expression (RE)</td>
</tr>
<tr>
<td>attributive phrase</td>
<td>adjective</td>
<td>modifier</td>
</tr>
<tr>
<td>(“admodifier phrase”)</td>
<td>—</td>
<td>admodifier</td>
</tr>
</tbody>
</table>

Table 2.3. Terms for prototypical heads and general heads of propositional act constructions.

We can now present the skeletal structure of a clause, in Figure 2.2. A clause usually has a head, which prototypically is a verb but more generally is a predicate. (Recall that clauses, and phrases, may be headless.) A clause may contain one or more referring phrases. A referring phrase usually has a head, which prototypically is a noun but more
generally is a referent expression. A referring phrase may contain one or more attributive phrases. An attributive phrase has a head, prototypically an adjective but more generally a modifier. Finally, an attributive phrase may contain one or more admodifiers.

**Figure 2.2. The skeletal structure of a clause.**

Languages often have specialized constructions for a head and specific types of dependent phrases. For example, English verbs describing putting or application normally have three dependent argument phrases, referring to the agent of the action, the thing being put or applied, and the location where the thing is put or applied:

(3) **[The engineers] placed [sandbags] [on the levee].**

This clause contains the verb *placed* the Subject *the engineers*, the Object *sandbags*, and the Oblique *on the levee*. An essential part of this construction is not just the morphosyntactic form of the head (the verb), but also the morphosyntactic form of the dependents: the Subject, Object and Oblique forms of the argument phrases. We want to talk about constructions with verb heads and certain types of dependents, which can be thought of as a type of clause construction. Since this is a configuration of argument phrases, it is called an **argument structure construction** (cxn). Argument structure constructions will be discussed in detail in chapters 7-9.

Likewise, languages often have specialized constructions for the head of a referring phrase combined with specific types of dependent attributive phrases. For example, English has different constructions for property modification and object modification:

(4) a. [dark red] book  
    b. [my mother]'s book

In the property modification construction in (4a), the attributive phrase *very red* is simply juxtaposed to the referent expression *book*. In the object modification construction in
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(4b), the attributive phrase *my mother* combines with the clitic -’s as well as the referent expression *book*.

We will want to talk about the constructions that different modifiers use to combine with the referent expression. But such constructions sometimes involve a morphosyntactic alteration of the referent expression, not just the attributive phrase. For example, the object modification construction in Mam, illustrated in (5), requires a prefix on the referent expression *kamb’* ’prize’ that indexes (agrees with) the attributive phrase *meeb’a* ‘orphan’ (England 1983:142):

\[(5)\quad t- \quad kamb’ \quad meeb’a
\]
\[3\text{SG- prize orphan}
\]
‘[the] orphan’s prize’

We also want to talk about the construction made up of the combination of an attributive phrase (or even multiple attributive phrases) and the head referent expression. We will call these **referent modification constructions**, or **modification constructions (cxn)** for short. Modification constructions are a type of referring phrase, since they include the head as well as the modifier(s) that make up a referring phrase. Modification constructions are discussed in detail in chapters 4 and 5.

### 2.2.5. Nonprototypical propositional act constructions

The constructions used to define noun, adjective and verb along the diagonal from upper left to lower right in Table 2.1 are always treated as the prototype constructions for describing morphosyntactic structure in any language. That is, someone describing the nouns of a language, however they define ‘noun’, will look at how the object concept that heads a referring phrase is expressed grammatically, and likewise for action concept predication and modification by a proper-ty concept. These constructions are also the most frequent in spoken discourse (Croft 1991:87-93).

Nevertheless, any semantic concept can be referred to, predicated, or used as a modifier, as we saw in Table 1.1 in §1.3 (see also Table 2.1 in §2.1). These **nonprototypical constructions (cxn)**, expressing less common combinations of semantic concept and propositional act, often use distinct strategies from the prototypical referring phrase, attributive phrase and clause constructions. Traditional approaches have given these nonprototypical combinations distinct names when the strategies are distinct. We, however, will use the traditional names to describe the construction, that is, the combination of semantic content and information packaging, no matter what strategy is employed for that combination in a particular language, as we said in §2.2.4. In this section, we will briefly describe the nonprototypical propositional act constructions. Most of them are complex and interesting enough that they will have chapters describing them in more detail.

The **deadjectival nominal construction (cxn)** expresses reference to property concepts. English examples generally use morphological derivation for the deadjectival nominal construction: *length < long, happiness < happy*, etc. Some languages simply use the same strategy as for the adjective, that is, no overt derivational morphology. This construction is little described in reference grammars and has not attracted attention in
typology, so it is little known. It also appears to be extremely rare in discourse. For this reason, we will not discuss this construction further in this textbook.

The **nominal modifier construction** (cxn) expresses modification with an object concept. The most common type of nominal attributive phrase is the possessive or genitive phrase as in *The boy’s bicycle*. English uses a distinct construction with the clitic ‘s. These constructions are common and rather complex; they are described in chapters 4 and 5 (along with other attributive phrases).

The **predicate nominal construction** (cxn) and **predicate adjectival construction** (cxn) express predication of object concepts and property concepts respectively. English, likely many languages, uses a distinct predication/clausal construction for both: *Sally is a professor; Sally is intelligent*. We used these constructions as examples in chapter 1. Predicate nominal and predicate adjectival constructions, and other constructions for the predicate of other nonprototypical predications such as location and possession, are described in detail in chapter 10.

Finally, there are the constructions used for referring to action concepts and for modification by action concepts. The terms we will use for these two combinations of semantic content and information packaging are **complement clause construction** (cxn) and **relative clause construction** (cxn) respectively.

These are complex construction types both within and across languages, for two reasons. First, there are a variety of strategies for reference to action and action modification within as well as across languages. Examples (6)-(7) illustrate the major strategies found in English, with their traditional names (capitalized since they are language-specific constructions):

(6) **Reference to actions:**
   a. *The explosion* startled them. [Nominalization]
   b. *Hiking in Canyonlands* is challenging. [Gerund]
   c. They want **to eat in the kitchen**. [Infinitival Complement]
   d. Frieda thinks *(that)* Janet won’t come to the party. [Finite Complement]

(7) **Action modification:**
   a. the **sleeping child/the child sleeping in the den** [Present Participle]
   b. the **stolen gold/the gold stolen by the Mafia** [Past or Passive Participle]
   c. the woman **to watch in this election** [Infinitival Relative Clause]
   d. the book **that I read last night** [Finite Relative Clause]

Traditional approaches to English grammar make a fairly sharp distinction between the (a) and (b) strategies, which are expressed in a form more like prototypical referring phrases, and the (c) and (d) strategies, which are expressed in a form more like prototypical clause constructions. Hence the traditional terms ‘complement clause’ and ‘relative clause’ are restricted to just the (c) and (d) strategies, and the (a) and (b) strategies are usually called ‘nominalization’ and ‘participle’. Yet a broader cross-linguistic perspective, and even the facts of English, particularly for English Gerunds, indicates that there is no sharp distinction in morphosyntactic form (see §2.4). For this reason, we extend the use of the traditional terms ‘complement (clause)’ and ‘relative clause’ to all strategies for action reference and action modification respectively.
The second reason why complements and relative clauses are complex is because of the semantics of actions. Actions have participants, often more than one, and occur in particular times and places. In clauses—that is, action predication—participants including time and place are usually expressed in argument phrases, and sometimes with inflections on the verb: *They are eating in the kitchen, Janet won’t come to the party, The gold was stolen by the Mafia, I read this book last night.* When actions are referred to, or used in modification, these participants and other semantic content associated with actions may still be expressed. How they are expressed also varies within and across languages, leading to further complexity in the strategies for complements and relative clauses. Hence, complements and relative clauses receive a chapter of their own, the last chapter of this textbook, due to their complexity.

Constructions express semantic content packaged in different ways. Yet the strategies used by the languages of the world to express functions are extremely diverse, and the mapping between morphosyntactic form and communicative function is very complex. Why is there so much crosslinguistic variation in the employment of strategies for predicate nominal and other constructions? In the rest of this chapter, the reasons for this complexity are outlined. In §2.3, we present three principles governing the relation between function and its expression in morphosyntactic form, which motivate the crosslinguistic variation. In §2.4, we present a general classification of strategies that occur in constructions expressing a nonprototypical combination of semantic content and information packaging, such as the ones described in this section. In §2.5, we present two universals of form-function mapping that constrain the types of strategies found in prototypical and nonprototypical constructions (in terms of the combination of semantic content and informational packaging that they express).

2.3. Three principles of the form-function mapping

Why is the form-function mapping in grammar so complex? The main reason is that “function” comes in two dimensions, semantic content and information packaging. Hence morphosyntactic form is actually mapped to a combination of two dimensions of function at once. And the relationship between those two dimensions of function is complex in itself. Nevertheless, there are three general principles that govern the relationship between semantic content and information packaging, and explain most of the complexity of the form-function mapping.

In §1.3, it was pointed out that any type of information—object (person or thing), action, property, or any other semantic class of information—can be packaged in any way. This is the first of three principles underlying the relationship between form and meaning (the three principles are discussed in Croft 2007a:350, 360-73; 2012:13-19).

*First principle of information packaging/construal:* any semantic content may be packaged in any way, in order to serve the joint goals of the interlocutors in discourse.

For example, we can refer to properties (8b) and actions (8c) as well as objects (8a):
a. Vanessa surprises me.
b. Vanessa’s goodness surprises me.
c. Vanessa’s resignation surprised me.

This principle was illustrated in §1.3, Table 1.1, Table 2.1 and in §2.2.5 just above. It is one of the main reasons why the form-function mapping cannot be reduced simply to a mapping from form to semantic content alone, and hence, why the traditional semantic definitions of ‘noun’, ‘adjective’ and ‘verb’ as object words, property words and action words fail.

Nevertheless, there is a grain of truth in the traditional semantic definitions of parts of speech. There are very strong preferences for how speakers package different types of information. Objects are autonomous entities that are stable and persistent over time. Hence objects are most likely to be packaged as referring expressions, and conversely, referring expressions are most likely to denote objects. This is because a discourse file that is set up or accessed in reference is itself a persisting, stable information package. It’s not impossible to refer to an action or a property, as we see in (16b-c); but it’s far less common in discourse. Likewise, actions are relational entities that are transitory in time. Hence actions are most likely to be packaged as predications, and conversely, predications are most likely to denote actions. This is because a predication is a passing thing—each clause in an utterance represents a single predication, and each successive clause normally asserts a different predication—and also, predications are predications about a referent, i.e., an information-packaging role normally filled by a participant in the action (Croft 1991:123).

These correlations between semantic class and information packaging are a manifestation of the second principle underlying the relationship between form and meaning:

• Second principle of information packaging/construal: the nature of reality, e.g. the semantic characteristics of semantic classes, favors (or disfavors) certain ways of packaging that information.

In the case of propositional act functions, the nature of reality favors or disfavors how semantic classes are packaged in a clause. Stable, autonomous entities are favored for reference, and transitory relational entities are favored for predication. Reference to stable autonomous entities and predication of transitory relational entities are therefore the most frequent packagings of meaning in discourse.

A corollary of this principle is that the “favored” ways to package meaning represent the prototypical grammatical constructions. A prototypical construction is a construction that expresses a specific “favored” combination of meaning and information packaging (see also Croft 2003, ch. 6). So for example, referring to an object is the function of the prototypical nominal or noun phrase construction. We have already seen the prototypical constructions for reference, predication and modification: they are the constructions in Table 2.1 on the diagonal from upper left to lower right.

Reference to an action or a property, on the other hand, is a nonprototypical combination, and the constructions used for this function occur less frequently in discourse. Languages often—but not always—have distinct constructions for
nonprototypical combinations of semantic content and information packaging function. For example, as we have seen, English uses a special predicate nominal construction with a copula for predicking an object concept (I am not a doctor). English also uses a nominalization construction for reference to an action or property word: goodness (from good) or resignation (from resign). This is one reason why a language usually has multiple referring constructions, multiple predication constructions, and so on: the other constructions are used for nonprototypical packaging of meaning.

Just how the nature of reality constrains construal, in this case information packaging, varies from one category to another. Consider modification of a referent. Property concept words are most likely to be packaged as modifiers in a modification construction (modifying a referent). This is because if you’re going to enrich the discourse file of a referent, which is a persisting thing, the commonest way to enrich it is with a persisting but simple additional characteristic of the referent, i.e. a one-dimensional scalar property like size (big/little) or quality (good/bad). In fact, a wide variety of concepts are used to modify referents, including numerals, quantifiers, deictic expressions and so on (see chapters 4-5). Nevertheless, property attributive constructions tend to be prototypical attributive constructions, i.e. prototypical adjectives are property words in an attributive construction.

Finally, there is a third principle governing the relationship between form and meaning:

• Third principle of information packaging/construal: the relationship between form and meaning—what sort of construction a word with a particular meaning occurs in—is a matter of cultural convention, that is, the linguistic conventions of the speech community.

This is why there is variation across languages: given the favoring/disfavoring of reality for certain ways to package meanings, and the employment of different constructions for the same information packaging function (see the second principle), speakers make choices as to how to conventionalize the possible relationship between word meaning and constructional meaning. For example, we saw that English uses a special construction with a copula (a form of be) and an indefinite article (a) to express predication of an object category, while Spanish uses a copula only, and Classical Nahuatl simply inflects the word for ‘doctor’ in the same way that it inflects action words in predication; examples (8)-(10a) from §1.4 are repeated in (9)-(11).

(9) English:
    I am not a doctor.

(10) Spanish:
    Yo no soy médico.
    I NEG am doctor
    ‘I am not a doctor.’
Cultural convention is partly arbitrary. We can’t predict what choice a language makes, that is, what choice its speakers make. There is always some degree of arbitrariness in grammar. This degree of arbitrariness is the reason for much cross-linguistic variation. Typologists survey a broad sample of languages in order to discover the range of variation; this textbook describes that range of variation for a broad range of constructions. Despite the arbitrariness underlying much cross-linguistic variation, typologists have found that there are valid universal patterns predicting the structure of one grammatical construction from the structure of another grammatical construction, and/or from the function of the construction. Some of these patterns will be described in this textbook.

One of the most significant patterns that typologists, and historical linguists, have found regarding the structure of constructions is a dynamic one, about the life history of a single construction. Most if not all grammatical constructions are the result of grammaticalization, the diachronic process mentioned at the very beginning of this textbook (§1.1). That is, grammatical constructions emerge from novel and specialized uses of other grammatical constructions. Once a grammatical construction acquires a novel, specialized use—that is, occurs with a specific meaning or function—it starts to undergo changes in grammatical structure that generally conform to the typical expression of that meaning/function. The grammaticalization process is, however, gradual. Many constructions that we observe in languages have progressed at least partly along a grammaticalization path. As a consequence they display “mixed”, or at least peculiar, grammatical structure or behavior.

For example, consider the English construction illustrated in You better leave now. On the surface, this is quite peculiar: the comparative form of an adjective, better, is occurring in the position typically occupied by auxiliary verbs such as must in English. This construction is a reduction of You’d better leave now, itself reduced from You had better leave now, which in turn arose from an Old English construction something like “It is better for you to…” (Denison and Cort 2007). The construction developed an obligation meaning, and for that reason eventually acquired the syntax of other obligation markers in English; but the auxiliary disappeared, and what is left is an “adjective” form occurring in “auxiliary” position.

Another example is He’s sort of cute. Sort of began as a noun indicating a type of something, with that something in a modifying of phrase, something like “This is a sort of a utensil”. But it acquired a degree modifier meaning, and for that reason came to be used in the English degree modifier construction, i.e in preadjectival position. Yet it kept the preposition of (although it lost the article a), leading to a grammatically peculiar “Noun of Adjective” construction (Traugott 2008). In fact, of is fusing with sort, leading to He’s sorta cute—a further step in the grammaticalization process.

Why does this happen? It is because speakers tend to be very creative about the functions to which they put utterances (remember the first principle), but they tend to be quite conservative about the forms they employ for those functions (remember the
third principle). The result is a messy relationship between form and function: some grammatical properties are due to the function that a specific phrase acquires, while other grammatical properties reflect the form it had when serving its original function.

Another consequence of this combination of creativity and conservativeness is that languages are filled with relatively fixed word combinations that have idiosyncratic meanings, such as \textit{eat X’s fill, red alert, run across X, straight ahead, pull the rug out from under X, babysit}, and on and on, seemingly endlessly. This is of course a major part of what makes it so hard to learn another language fluently, or to describe a language thoroughly. An overview of grammatical structure such as this textbook cannot explore the full richness of conventionalized combinations of this sort (called ‘idioms’ and ‘collocations’). We can only outline the more general grammatical patterns from which these specialized combinations arise.

2.4. Prototypical and nonprototypical strategies for constructions

The English Predicate Nominal construction and the Classical Nahuatl Predicate Nominal construction illustrated in (9) and (11) in §2.3 are constructions used to express nonprototypical combinations of semantic class and information packaging function. These language-specific constructions instantiate two contrasting strategies used to encode nonprototypical combinations of semantics and information packaging that are found in many different constructions, not just the constructions found in Table 1.6.

In English, the word \textit{doctor} in the predicate nominal construction \textit{I am not a doctor} looks morphosyntactically very much like the word \textit{doctor} in the referring expression construction: the form of the word is the same, the word takes the indefinite article \textit{a}, and so on. Object concepts occur most commonly in reference, much more so than in predication, and so object concepts are the semantic prototype for reference. In English, when object words are being used in predication rather than reference, they “take along” the morphosyntax of their prototypical information packaging function, so to speak. That is, English speakers encode the nonprototypical combination of object predication by using the grammatical structures found in the prototypical combination in the same row of Table 1.6, namely object reference. We will call this encoding strategy the \textbf{prototypical information packaging (IP) strategy}: employ the morphosyntax of the information packaging function prototypically associated with the semantic category.

This is why \textit{doctor} in \textit{I am not a doctor} is called an English Noun in word class approaches: it can take an article and other modifiers (e.g. \textit{I am not a medical doctor}). However, \textit{doctor} in the English Predicate Nominal construction is not fully like a prototypical noun: for example, \textit{doctor} takes only the indefinite article (\textit{I am not the doctor} has a different meaning; see §10.1.2). We describe this as a more limited \textbf{behavioral potential} (see §2.5) of \textit{doctor} in the Predicate Nominal construction compared to the prototypical noun in reference: it can’t take both the definite and indefinite articles.

A prototypical IP strategy is a recruitment strategy: the construction(s) used for object concepts in their prototypical referring function are recruited for object predication. A prototypical IP strategy can also be thought of as the more conservative approach, carrying the referring function syntax over to the predicating function.
In Classical Nahuatl, on the other hand, when an object word like tīcitl is used for predication, it takes on the morphosyntax (or at least some of it) of words prototypically associated with its actual information packaging function, namely action predication: it indexes (agrees with; see §3.3.2) its subject for person and number and inflects for negation similar to a verb (defined as the head of an action predication). That is, Classical Nahuatl speakers encoded the nonprototypical combination of object predication by using the grammatical structures found in the prototypical combination found in the same column of Table 1.6, namely action predication. We will call this encoding strategy the **actual information packaging (IP) strategy**: employ the morphosyntax of the words prototypically associated with the actual information packaging function.

This is why tīcitl in ah-ni-tīcitl is sometimes called a Classical Nahuatl Verb, or a subclass of Classical Nahuatl Verbs, or it is said that “there are no nouns in Classical Nahuatl” in the word class approach to syntactic analysis described in §1.2.1 (Andrews 1975:13). However, tīcitl in the Classical Nahuatl Predicate Nominal construction is not fully like a prototypical verb in the language: it does not inflect for tense (Andrews 1975:147). That is, tīcitl in the Classical Nahuatl Predicate Nominal construction has a more limited behavioral potential compared to the prototypical verb in predication.

An actual IP strategy is a co-expression strategy: the object predication function is co-expressed with the action predication construction. This is another reason why it is said that ”Classical Nahuatl nouns are verbs”; object concept words are co-expressed with action concept words in the same predicaiton function.

The English Predicate Nominal construction does not consist solely of a doctor; it also includes a form of be. Be is an English Copula, that is, it is a language-specific word class defined by the Predicate Nominal construction. The employment of this “extra” morpheme is another common grammatical strategy, particularly for nonprototypical constructions such as the predicate nominal construction. We will call this strategy the **overt (coding) strategy** \(str\). Hence a more accurate (but not yet completely accurate) description of the English Predicate Nominal construction is that it uses an overt prototypical IP strategy.

The opposite of an overt coding strategy is, of course, a **zero (coding) strategy** \(str\). An example of a zero (coded) prototypical IP strategy—no extra morpheme—for object predication is found in Pitjantjatjara (Stassen 1997:69). The predicated object word ngalyayala in (12) is identical in grammatical form to the object word tjitji used in reference in (13).

(12) wati ngalyayala
    man   **doctor**
    ‘The man is/was a doctor.’

(13) tjitji yinka -ra
    child  sing    -PRS
    ‘The child is singing.’

The English Copula is not just an extra morpheme found in the predicate nominal construction of English. It also inflects for subject and tense, and may take modal auxiliaries, typical of action predication:
a. I am not a doctor.
b. He was a doctor.
c. She might be a doctor.

The English Predicate Nominal construction thus has some characteristics of the actual IP strategy—inflection of the copula for subject and tense—as well as some features of the prototypical IP strategy—indefinite article, adjectival modifiers. We will call this an example of a **hybrid IP strategy**. Hence we finally describe the English Predicate Nominal construction as employing an overt hybrid IP strategy.

An example of a genuine overt prototypical (not hybrid) IP strategy is the Mandarin Chinese Predicate Nominal construction:

(15) Zhāngsān shì yī -ge hūshī
    Zhangsan COP one -CLF nurse
    ‘Zhangsan is a nurse.’

The Mandarin Chinese Copula does not display any of the typical morphosyntax of an action predication in the language.

These different strategies may also be illustrated by the nonprototypical combination of reference to actions, that is, complement clause constructions. English provides examples of the zero and overt prototypical IP strategies for complement clause constructions in (16a) and (16b) respectively; compare them to the action predication construction in (16c):

(16) a. …then decides he’d much rather take a whole basket.
b. …then decides that he’d much rather take a whole basket.
c. He’d much rather take a whole basket.

The action word *take* in (16a), which is an attested example from the Pear Film narratives (Chafe 1980), is functioning as an argument of the main predicate *decide*. Yet it occurs in the same construction as if it were the main predication: it takes adverbial modifiers, a modal auxiliary, a subject and a direct object just like (16c) does. Example (16b), an alternative to example (16a), includes the English Complementizer *that*, an extra morpheme that makes (16b) an example of the overt prototypical IP strategy. In either case, *take* is analyzed as an English Verb in the word class approach because it looks like a prototypical verb.

Finnish provides an example of an overt actual IP strategy for action reference (Koptjevskaja-Tamm 1993:168-69). Example (17) illustrates object reference in Finnish, and example (26) illustrates action reference:

(17) Silja juo maidon.
    Silja:NOM drink milk:ACC
    ‘Silja drinks milk.’
The action word ‘give’ in (18) has the structure of a referring phrase: both of the participants in the action, parents and economic support, are expressed as possessive modifiers of the nominalized form. The nominalization morpheme is an extra morpheme, hence the strategy is overt. Since the extra morpheme is an affix on ‘give’, the whole word antaminen is analyzed as a Noun in the word class approach, since the word form is different from the predicate form.

An example of an overt hybrid IP strategy for action reference is the English Gerund construction:

(19) Her drinking coffee surprises me.

*Her drinking coffee* denotes an event but it is an argument of the predicate *surprises*—that is, the speaker is referring to the action of drinking. The first part, *her drinking*, looks like a referring expression: it takes a possessive pronoun modifier, just like *her bicycle*. But *coffee* is expressed like the Direct Object of the verb *drink*, as in the action predication *She drinks coffee*. The English Gerund “mixes” the syntax of prototypical referring expressions with the syntax of prototypical predications, hence it is an example of a hybrid strategy. Finally, the English Gerund has an “extra” morpheme, the -ing suffix. Thus, the English Gerund uses an overt hybrid IP strategy. Forms like *drinking*, in which the overt morpheme is part of the word form and the word form employs a hybrid IP strategy, pose a severe problem for word class approaches. Is the English Gerund a Noun or a Verb? This question cannot be answered, because it is a bit of both.

Example (20) illustrates an example of an overt hybrid IP strategy from Amharic (Koptjevskaja-Tamm 1993:283):

(20) yä-pitär yäfaqr -u -n zäfän azzäfän

*GEN- Peter love -DEF -ACC song sing:NML*

‘Peter’s singing [i.e. his way of singing] the love song’

The Amharic example is exactly like the English Gerund. The construction has the participant ‘Peter’ in the genitive case, like a possessor of ‘singing’; this is an example of the actual IP strategy. However, the construction also has ‘the love song’ in accusative case, like the object of ‘singing’; this is an instance of the prototypical IP strategy. Finally, the word ‘sing’ is in a nominalized form—that is, overt coding. Hence (20) is an example of the overt hybrid IP strategy. The similarity of the English and Amharic constructions is because the constructions in both languages conform to universals about the expression of reference to actions that will be described in chapters 15 and 17.

I have gone into some detail about predicate nominal constructions and complement constructions in order to illustrate how and why the form-function mapping in language is so complicated. The complication arises from the competing forces of encoding meaning (semantic class) and information packaging. Certain combinations of semantic class and information packaging are prototypical (the most frequent—see below). Other
combinations of semantic class and information packaging occur, and indeed are essential for communication. These other, nonprototypical combinations use different combinations of different prototypical constructions to a greater or lesser extent, and sometimes throw in extra morphemes (free or bound) to boot. Different languages employ different combinations, leading to even greater crosslinguistic diversity. And in fact, speakers of the same language use different options for different combinations of semantic class and information packaging. For this reason, language variation within and across languages is rampant.

2.5. Two crosslinguistic universals of grammatical strategies

Despite the complexity described in §§1.6.1-1.6.2, there are nevertheless certain broad universal patterns that constrain this complexity, and justify our characterization of certain combinations of semantic class and information packaging function as “prototypical”. They can be summarized in two universals:

- **Structural Coding.** A lexical class used in a nonprototypical propositional act function will be coded with at least as many morphemes as in its prototypical function.

  Structural coding (Croft 2003, chapter 4) refers to the morphemes used to express the meaning—that is, coding strategies. Contrasts in structural coding are usually between zero coding and overt coding—presence or absence of the “extra” morpheme described in §1.6.2. The overt morphemes may be free, like the English copula *be*, or bound, like the English nominalization suffixes in *bright-ness* and *descrip-tion*. Zero coding, or more generally coding by fewer morphemes, is characteristic of the constructions used for the more frequent, prototypical members; see Table 2.4. Coding by (more) overt morphemes, in boldface in Table 2.4, is characteristic of the constructions used for the less frequent, nonprototypical members.

<table>
<thead>
<tr>
<th></th>
<th>Reference</th>
<th>Modification</th>
<th>Predication</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Objects</strong></td>
<td><em>vehicle</em></td>
<td><em>vehicle’s</em>, <em>vehicul-ar</em>, <em>of/in/etc. the vehicle</em></td>
<td><em>be a vehicle</em></td>
</tr>
<tr>
<td><strong>Properties</strong></td>
<td><em>white-ness</em></td>
<td><em>white</em></td>
<td><em>be white</em></td>
</tr>
<tr>
<td><strong>Actions</strong></td>
<td><em>destruc-tion</em>, <em>to destroy</em>, <em>destroy-ing</em>, <em>that…destroy</em></td>
<td><em>destroy-ing</em>, <em>destroy-ed</em>, <em>which/that…destroy</em></td>
<td><em>destroy</em></td>
</tr>
</tbody>
</table>

*Table 2.4. Examples of English constructions for parts of speech and their zero/overt coding.*
Structural coding is fairly straightforward. A subtler contrast between constructions has to do with the possible ways that the word can inflect, or the range of possible dependents the head word can combine with. These possibilities of grammatical behavior are called behavioral potential:

- **Behavioral Potential.** A lexical class used in a nonprototypical propositional act function will also have no more grammatical behavioral potential than in its prototypical function.

Behavioral potential (Croft 2003, chapter 4) is the ability to express other, “cross-cutting” semantic distinctions grammatically. The semantic distinctions can be expressed either by bound morphemes, particularly inflections, or by separate words, for example, definite articles, degree modifiers or modal auxiliaries.

Behavioral potential is what is described by the IP strategies introduced in §1.6.2. In the case of the propositional act constructions, behavioral potential usually applies to the actual IP strategy. Characteristic inflectional behavior for each column in Table 2.4 is given below (these inflectional categories will be described in more detail in the relevant chapters):

*Typical behavioral potential for reference:* number, gender, case, definiteness; indexation of (agreement with) possessor

*Typical behavioral potential for modification:* degree (simple, comparative, superlative); agreement with head noun in number, gender and case

*Typical behavioral potential for predication:* tense, aspect, modality (TAM); indexation of (agreement with) subject (and object) in person, number and/or gender

For example, predication of an object category may not follow the actual IP strategy completely: it may lack some inflections associated with verbs in the language, as we observed with the Classical Nahuatl Predicate Nominal construction.

Greater behavioral potential is associated with prototypicality. More generally, prototypical members have lower structural coding but higher behavioral potential. One can think of it in this way: the prototypical members are getting more communicative value (behavioral potential) for less cost (structural coding).

The motivation for these two universals is **token frequency** (Greenberg 1966a; Bybee 1985; Croft 2003). The prototypical members are the most common fillers of those information packaging roles. So they tend to be shorter (lower structural coding) and more differentiated grammatically (higher behavioral potential). Conversely, less prototypical members tend to be longer and to be less differentiated.

To sum up: a constructional approach allows us to avoid the problems of the word class based approach to grammatical concepts like ‘noun’, ‘verb’ and ‘adjective’ described in §1.2. The constructional approach also allows us to characterize the complex mapping between form and meaning, by distinguishing prototypical and nonprototypical
combinations of semantic content and information packaging, and by identifying different types of strategies to encode function in grammatical form.
Terms introduced in this chapter:

2.1. Propositional acts: semantic classes and information packaging
object concept (sem), nonrelational (sem), relational (sem), property concept (sem), action
concept (sem), dynamic (sem), stative (sem), transitory (sem), state (sem), event (sem),
etntity (sem), ontology (sem), file metaphor, argument (inf),

2.2. The major propositional act constructions, and heads and dependents

2.2.1. Anatomy of a construction: wholes and parts, and heads and dependents
head (cxn), dependent (cxn)

2.2.2. Types of constructions: phrases and clauses
referring phrase (cxn), admodifier (cxn), degree (sem), attributive phrase (cxn), topic-comment (inf), predicate (cxn), argument phrase (cxn), clause (cxn), complex predicate (cxn)

2.2.3. Noun, verb and adjective as comparative concepts, and prototypical constructions
prototypical construction (cxn), noun (cxn), adjective (cxn), verb (cxn)

2.2.4. More on the structure of propositional act constructions
predicate (cxn), modifier (cxn), referent expression (cxn), argument structure construction
(cxn), modification construction (cxn)

2.2.5. Nonprototypical propositional act constructions
nonprototypical construction (cxn), deadjectival nominal (cxn), nominal modifier (cxn),
predicate nominal (object predication) construction (cxn), predicate adjectival (property
predication) construction (cxn), complement (clause) (cxn), relative clause (cxn)

2.3. Three principles of the form-function mapping

2.4. Prototypical and nonprototypical strategies for constructions
prototypical information packaging (IP) strategy (str), actual information packaging
strategy (str), overt (coding) (str), zero (coding) (str), hybrid information packaging
strategy (str)

2.5. Two crosslinguistic universals of grammatical strategies
strutural coding, behavioral potential