

## Colorless Green Ideas Sleep Furiously

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Medical communications are supposed to make sense. Thus, one of a medical editor's most important responsibilities is to find and fix nonsensical sentences. Many different kinds of problems can cause a sentence to be nonsensical. Some of these problems are **syntactical**, which means that they arise from some flaw in the grammatical structure of the sentence. Others are **semantic**, which means that they arise from the meanings of the words. In his 1957 book *Syntactic Structures*, Noam Chomsky provided a classic example of a sentence that makes no sense even though it is grammatically correct:

☹ Colorless green ideas sleep furiously.

The sentence is grammatical. It contains a noun phrase that serves as a subject (*colorless green ideas*) and a verb phrase that serves as a predicate (*sleep furiously*). The noun in the subject phrase and the verb in the predicate phrase even agree in number. Yet the phrase *colorless green ideas* makes no sense. Ideas have no color. Even if they had a color, they could not be colorless and green at the same time. Nor does the predicate make sense. Ideas cannot sleep, and nothing can sleep furiously.

When I am editing someone else's writing or reviewing my own, I analyze the sentences for semantic problems of that kind. Do the noun-verb transactions make sense? Does each modifier (ie, adjectival and adverbial elements) really modify its head (the sentence element that it's supposed to be modifying)? In particular, I focus on each verb and think about how it relates to each of its arguments and adjuncts. The arguments of a verb are the nouns and noun phrases that stand in some sort of relationship to a verb in a particular sentence: namely, the subject(s), direct object(s), and indirect object(s) of the verb. A verb may also have adjuncts. Adjuncts are sentence elements that are not structurally necessary. In other words, the sentence would still qualify as a complete, grammatical sentence if they were left out. Nevertheless, they can provide some useful information.

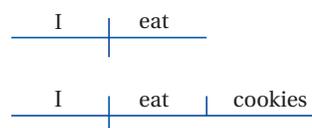
### Syntactic Structures

The syntactical arguments of a verb include the subject, direct object, and indirect object. The adjuncts of a verb include adverbial prepositional phrases and adverbial clauses.

All verbs can have a subject. However, only transitive verbs can take a direct object. Note that some verbs can be used in a transitive or intransitive sense:

- ☺ I eat. (In this sentence, *eat* is intransitive because there's no direct object.)
- ☺ I eat cookies. (Here, *eat* is a transitive verb because there is a direct object: cookies.)

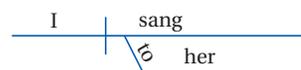
The syntactical relationships are easily shown by diagramming the sentence:



A good dictionary will tell you whether a verb can be used in a transitive sense. If the dictionary lists a particular verb as only being intransitive, I avoid giving it a direct object.

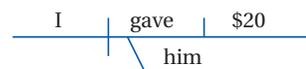
Verbs that can take an indirect object are sometimes called dative verbs:

- ☺ I sang to her.



Verbs that can take a direct and an indirect object are called ditransitive verbs:

- ☺ I gave him \$20.



There are also some tritransitive verbs, such as to trade, which can take a direct object and two indirect objects:

- ☉ I traded him my peanut butter sandwich for a Twinkie.

### Semantic Structures

Linguists have come up with some terminology to describe the semantic relationships between nouns and verbs. For example, an **agent** is an entity that performs an action, and a **patient** is an entity that undergoes an action. Note that the agent of a verb is not necessarily the subject of the sentence. Nor is the patient always the direct object. When the passive voice is used, the patient is the subject of the verb and the agent is in a prepositional phrase, if it is mentioned at all.

- ☉ I broke the window. (Active voice: the agent is the subject and the patient is the direct object.)
- ☉ The window was broken [by me]. (Passive voice: the patient is the subject and the agent can even be omitted.)

The table lists some common types of semantic arguments and adjuncts, sorted according to their syntactical roles. Notice that some of the arguments are subjects, direct objects, and indirect objects, whereas the adjuncts are adverbial phrases or adverbial clauses.

These terms are helpful in thinking about how a verb relates to the nouns and adverbial elements in the sentence.

However, the boundaries between these terms are sometimes hazy. For example, it may be hard to decide whether something is a patient or a theme.

### Verb Arguments

Careful writers and good editors think about whether the argument structure of each verb makes sense. For example, some kinds of verbs can be performed by only certain kinds of subjects. For example, an animal, an inanimate object, or a natural event can kill you, but only another human being can *murder* you. That's because the word murder is defined as the unlawful premeditated killing of one human being by another.

When I am writing or editing, I think about whether the arguments of each verb make sense. Can the agent of that verb really perform that action? If there is a direct object, is the verb really transitive, and does that verb express something that is really happening to that direct object? For help in making these decisions, I often turn to the dictionary. Besides providing definitions of the words involved, dictionaries give you examples of how those words are used. Often, those examples show the kind of argument structures that are appropriate for particular nouns and verbs.

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Subjects		
Agent	deliberately performs an action	I spoke.
Force or natural cause	mindlessly performs an action	The <b>wind</b> blew.
Experiencer	receives sensory or emotional input	<b>They</b> suffered.
Direct objects		
Patient	undergoes an action and changes its state	I broke the <b>window</b> .
Theme	undergoes an action but is not changed	I gave him <b>\$20</b> .
Indirect objects		
Recipient	someone or something that receives ownership	I gave <b>him</b> \$20.
Beneficiary	the entity for whose benefit the action was performed	I baked <b>her</b> a pie.
Adverbial phrases and clauses		
Time	when an action occurred	The operation was performed <b>on Tuesday</b> .
Location	where an action occurred	The procedure was performed <b>in the examination room</b> .
Source or origin	where the action originated	The foreign body was removed <b>from his ear</b> .
Direction or goal	where the action is directed toward	She was taken <b>to the hospital</b> .
Instrument	something used to perform the action	The incision was made <b>with a scalpel</b> .
Manner	how some action was carried out	The bill was sent to me <b>in error</b> .
Purpose	why someone chose to do something	She called to <b>remind me about the meeting</b> .
Cause	why an action occurred	The ice in the freezer melted <b>because the power went out</b> .