

Technical Writing and Speaking in English

Avoiding ambiguity¹

Danilo Carastan-Santos¹

¹Université Grenoble Alpes, Grenoble INP, Inria, LIG, France
email:danilo.carastan-dos-santos@univ-grenoble-alpes.fr

5 February 2025

¹Thanks to Anderson Andrei da Silva for preparing this material

Avoid words with multiple interpretations

Many words in English have multiple meanings.



The technician wanted to reduce the vibration of the fan at the exhaust as the exhaust ducting was cracking.

Avoid words with multiple interpretations

Many words in English have multiple meanings.



The technician wanted to reduce the vibration of the fan at the exhaust as the exhaust ducting was cracking.



The technician wanted to reduce the vibration of the fan at the exhaust **because** the exhaust ducting was cracking.

Consider the ordering of words

The ordering of words and phrases may cause ambiguities.



The proposed schedule is discussed below for the next four years.

Consider the ordering of words

The ordering of words and phrases may cause ambiguities.



The proposed schedule is discussed below for the next four years.

- Does the schedule extend for 4 years?
- Will the discussion of the schedule take the reader 4 years to read?



The proposed schedule for the next four years is discussed below.

Consider the ordering of words

The ordering of words and phrases may cause ambiguities.



In low water temperatures and high toxicity levels of oil, the technician tested how well the microorganisms survived.

Consider the ordering of words

The ordering of words and phrases may cause ambiguities.



In low water temperatures and high toxicity levels of oil, the technician tested how well the microorganisms survived.



The technician tested how well the microorganisms survived in low water temperatures and high toxicity levels of oil.

Consider the ordering of words, especially the word only

One word in English probably causes more ambiguities because of its placement than any other, the word *only*:

Consider the ordering of words, especially the word *only*

One word in English probably causes more ambiguities because of its placement than any other, the word *only*:

- Only I sighted the cheetah yesterday.
- I only sighted the cheetah yesterday.
- I sighted only the cheetah yesterday.
- I sighted the only cheetah yesterday.
- I sighted the cheetah only yesterday.

Consider the ordering of words, especially the word *only*

One word in English probably causes more ambiguities because of its placement than any other, the word *only*:

- Only I sighted the cheetah yesterday.
- I only sighted the cheetah yesterday.
- I sighted only the cheetah yesterday.
- I sighted the only cheetah yesterday.
- I sighted the cheetah only yesterday.

Each sentence has a different meaning. In particular, the word *only* can be:

- an adjective (first and fourth sentences)
- an adverb (second, third, and fifth sentences)

Be selective with *it* and avoid the standalone *this*

Let's consider the following excerpt:

Because the receiver presented the radiometer with a high-flux environment, it was mounted in a silver-plated stainless steel container.

What is mounted in the container? The receiver? The radiometer? The environment?

Be selective with *it* and avoid the standalone *this*

Let's consider the following excerpt:

Because the receiver presented the radiometer with a high-flux environment, it was mounted in a silver-plated stainless steel container.

What is mounted in the container? The receiver? The radiometer? The environment?

- The noun environment is the nearest possible reference to the pronoun it, ... but that reference makes no sense;

Be selective with *it* and avoid the standalone *this*

Let's consider the following excerpt:

Because the receiver presented the radiometer with a high-flux environment, it was mounted in a silver-plated stainless steel container.

What is mounted in the container? The receiver? The radiometer? The environment?

- The noun environment is the nearest possible reference to the pronoun it, ... but that reference makes no sense;
- The noun receiver receives the most emphasis in the sentence, but ... three pages later in this report, the reader learns that the receiver stands more than 15 meters tall;

Be selective with *it* and avoid the standalone *this*

Let's consider the following excerpt:

Because the receiver presented the radiometer with a high-flux environment, it was mounted in a silver-plated stainless steel container.

What is mounted in the container? The receiver? The radiometer? The environment?

- The noun environment is the nearest possible reference to the pronoun it, ... but that reference makes no sense;
- The noun receiver receives the most emphasis in the sentence, but ... three pages later in this report, the reader learns that the receiver stands more than 15 meters tall;
- The pronoun it to refer to the noun radiometer, although this noun was neither the noun nearest to the pronoun nor the noun that received the most emphasis in the sentence.

Exercise: What can be a solution?

Be selective with *it* and avoid the standalone *this*

Let's consider the following excerpt:

Because the receiver presented the radiometer with a high-flux environment, it was mounted in a silver-plated stainless steel container.

What is mounted in the container? The receiver? The radiometer? The environment?

- The noun environment is the nearest possible reference to the pronoun it, ... but that reference makes no sense;
- The noun receiver receives the most emphasis in the sentence, but ... three pages later in this report, the reader learns that the receiver stands more than 15 meters tall;
- The pronoun it to refer to the noun radiometer, although this noun was neither the noun nearest to the pronoun nor the noun that received the most emphasis in the sentence.

Exercise: What can be a solution?

Be selective with *it* and avoid the standalone *this*

Let's consider the following excerpt:

Because the receiver presented the radiometer with a high-flux environment, it was mounted in a silver-plated stainless steel container.

What is mounted in the container? The receiver? The radiometer? The environment?

Exercise: What can be a solution?

Be selective with *it* and avoid the standalone *this*

Let's consider the following excerpt:

Because the receiver presented the radiometer with a high-flux environment, it was mounted in a silver-plated stainless steel container.

What is mounted in the container? The receiver? The radiometer? The environment?

Exercise: What can be a solution?



Because the receiver presented the radiometer with a high-flux environment, the radiometer was mounted in a silver-plated stainless steel container.

Be selective with *it* and avoid the standalone *this*

Let's consider the following excerpt:

No peaks occur in the olefinic region. Therefore, no significant concentration of olefinic hydrocarbons exists in fresh oil. This places an upper limit on the concentration of olefins no more than 0.01 percent.

What does the chemist want the word *this* to refer to?

- To the last noun of the previous sentence: oil?
- To the subject of the last sentence: concentration?
- To the idea of the previous sentence: that no significant concentration of olefinic hydrocarbons exists?

Answer: The chemist intended the word *this* to refer to the lack of peaks in the olefinic region.

Be selective with *it* and avoid the standalone *this*

Unlike *it*, which is a pronoun and nothing else, the word *this* is a special type of adjective, which journalists occasionally use as a pronoun to refer to the idea of the previous sentence.

Unfortunately, many scientists use the *standalone this* much more often. Worse yet, many of those uses refer to different things:

- the last noun used;
- the subject of the previous sentence;
- the idea of the previous sentence.

Be selective with *it* and avoid the standalone *this*

Instead of using *this* as a pronoun, clarify your writing by letting this do what it does best: to point.

The chromatogram has no peaks in the olefinic region. Therefore, no significant concentration of olefinic hydrocarbons exists in fresh oil. **This** chromatogram finding places an upper limit on the olefin concentration no more than 0.01 percent.

Be selective with *it* and avoid the standalone *this*

Instead of using *this* as a pronoun, clarify your writing by letting this do what it does best: to point.



If you receive an e-mail titled “Win a Holiday,” do not open it. The email will erase everything on your hard drive. Forward this out to as many people as you can. The “Win a Holiday” virus is a malicious and not many people know about it.

Be selective with *it* and avoid the standalone *this*

Instead of using *this* as a pronoun, clarify your writing by letting this do what it does best: to point.



If you receive an e-mail titled “Win a Holiday,” do not open it. The email will erase everything on your hard drive. Forward this out to as many people as you can. The “Win a Holiday” virus is a malicious and not many people know about it.



If you receive an e-mail titled “Win a Holiday,” do not open it. The e-mail will erase everything on your hard drive. Forward this warning out to as many people as you can. The “Win a Holiday” virus is malicious and not many people know about it.

Insert commas after introductory phrases and clauses

Another common source of ambiguities arises from missing punctuation. Commas act as yield signs that tell readers when to slow down so that they will see the sentence in a certain way.



After cooling the exhaust gases continue to expand until the density reaches that of free stream.

Insert commas after introductory phrases and clauses

Another common source of ambiguities arises from missing punctuation. Commas act as yield signs that tell readers when to slow down so that they will see the sentence in a certain way.



After cooling the exhaust gases continue to expand until the density reaches that of free stream.



After cooling, the exhaust gases continue to expand until the density reaches that of free stream.

Insert commas after introductory phrases and clauses

A source of ambiguity involves missing commas in a series of three or more items. For example: *The three elements were hydrogen, oxygen, and nitrogen..*



The fluid serves as a transmission medium for hydrodynamic energy in the torque converter, hydrostatic energy in servos and logic circuits and sliding friction energy in clutches.

Insert commas after introductory phrases and clauses

A source of ambiguity involves missing commas in a series of three or more items. For example: *The three elements were hydrogen, oxygen, and nitrogen..*



The fluid serves as a transmission medium for hydrodynamic energy in the torque converter, hydrostatic energy in servos and logic circuits and sliding friction energy in clutches.



The fluid serves as a transmission medium for hydrodynamic energy in the torque converter, hydrostatic energy in servos, and logic circuits and sliding friction energy in clutches.

Insert commas after introductory phrases and clauses

A source of ambiguity involves missing commas in a series of three or more items. For example: *The three elements were hydrogen, oxygen, and nitrogen..*



In our study, we examined neat methanol and ethanol and methanol and ethanol with 10 percent water.

Insert commas after introductory phrases and clauses

A source of ambiguity involves missing commas in a series of three or more items. For example: *The three elements were hydrogen, oxygen, and nitrogen..*



In our study, we examined neat methanol and ethanol and methanol and ethanol with 10 percent water.



In our study, we examined four fuels: neat methanol, neat ethanol, methanol with 10 percent water, and ethanol with 10 percent water.