

# Scholarship Skills

Tim Sheard & Todd Leen  
OGI – OHSU

## Lecture 5: Mechanics of Writing

All material © 1996, 1997,  
1999, 2000

David Maier

Todd Leen – 2001, 2006

## Mechanics

Grammar, Punctuation, Technical Notation

Why does it matter? Poor grammar

- distracts
- misleads
- slows down reader

We will criticize some constructs that are grammatically correct, but not optimal (clarity, conciseness etc.).

## Spelling

Use a spell checker

If you are writing for a US conference or journal, use American (rather than British) spelling

“color” vs “colour”

Be consistent

don't use “modeling” and “modelling” in the same paper. (Core rule : Use a consistent lexical set.)

Avoid contractions in technical writing

doesn't -> does not

## Word Choice: Confusables

- affect

(verb)

Doubling the running time had no  
xxxx on solution quality.

Doubling the running time did not  
xxxx solution quality.

- effect

(noun)

- stationary

doesn't move

- stationery

write on it

- complement

complete or  
round out

- compliment

"nice tie"

## Confusables 2

- alternate                      alternative

every other                      substitute

The procedure rounds up and rounds down on xxxx iterations.

If the search blocks, it tries an xxxx strategy.

- imply                                      infer

authors imply, readers infer

Douglas and Watson xxxx in their paper that method A is superior.

## Confusables 3

- `less` (quantity)      `fewer` (count)  
Algorithm A took xxxx time than  
Algorithm B, but B used xxxx disk  
pages.

## Latin

Avoid it.

e.g. --> for example, for instance

i.e. --> that is

(But both of these are ok in parenthetical remarks.)

etc. --> and so forth (but it's better to explicate examples).

About the only Latin phrase I use regularly is "et al." in citations.

But Dupré (Segment 65) suggests that you should not use this at all! Instead, she suggests you use *and colleagues*, or *and associates*.

## Jargon

We don't realize we are using jargon from CS many times

We sought *user input* on the design.

## Numbers

Dupré segments 24 and 34

Generally, spell out whole numbers less than 10

We have three choices for each trial.

### Exceptions

units of measure, time, dates, page#, chapter#, percentage, money, proportions, part of a series of larger numbers

The algorithm failed to converge for  $n$  equal to 7, 14 and 21.

Point A is 3 inches from point B.

when two numbers are together, if confusing  
eleven 1000-ohm resistors

Time

He arrived at 8:30pm.

### Use a leading zero on a fraction

0.5 second

but,

one-half second

if not accurate to a tenth

## Numbers, Cont.

Use a hyphen for part of an adjective: 5-inch ruler

Ordinals:

0th, 1st, 2nd, 3rd, 4th

Tables: Keep same number of significant figures in a column.

## 2 Is Not 3

### Comparatives and Superlatives

-er, more for comparing 2 things

-est, most for comparing 3 or more things

Algorithm A is the better of the two.

### Between (2) and Among (3)

The procedure places a space xxx each pair of words.

The procedure must choose xxx the empty buffer slots.

“Between” is often used for both in modern writing. Some authors consider “among” to be archaic. (For this use of quotation marks, see Dupré Segment 41.)

## Citations

Don't use citations as a words

In [15], the authors extend the method to lists.

instead, treat them as parenthetical remarks

McDonnell and Slington [15] extend the method.

Don't use citations in titles and section headings

2.4 Dijkstra's Algorithm [17] for Shortest Path

## Other Words

Above and below  
should appear after the noun

... in the formula above

... in the formula below

Such as -- possibly the same, or as an example

Like -- similar but not equal

To order the result, we can use a sorting  
routine xxxxxx Quicksort.

There is no result xxx the pumping lemma for  
recursive languages.

(See Dupré Segment 27)

# Grammar

## Singular and Plural

Subject and verb agreement—know what the subject is

These problems *arise* ...

This problem *arises* ...

A subset of these problems *arises* in the deterministic case.

Referent of a pronoun should agree in number

Footnotes are a means to convey incidental information to the reader. Use *them* sparingly.

The footnote is a means to convey incidental information to the reader. Use *xxxx* sparingly.

Articles: A, An, The

Do it by sound. Use "an" before a vowel sound, "a" before a consonant sound.

## Avoid Non-referential “This”

Reducing the number of service queues increases average delay and reduces the number of idle periods. *This* affects the recovery subsystem.

Almost always clearer if you have a noun after *this*

This reduction affects the recovery subsystem.

## Keep Parallel Clauses Parallel

We can solve the problem *by making* the input file name the default or *select* the previous output file when none is specified.

If in doubt, make two sentences in your head:

We can solve the problem by making the input file name the default.

We can solve the problem by selecting the previous output file ...

(As here, you should use parallel construction in adjacent sentences that express similar ideas.)

## Placement of “Only”

Different placements of “only” almost always change meaning.

Negative edge weights affect only Dijkstra's algorithm.

Only negative edge weights affect Dijkstra's algorithm.

## Lists of Examples

Generally, want and as the conjunction

Examples of computational chemistry codes are GAMESS, Gaussian, and MELDF.

Don't use for example (or e.g.) and etc.

Mosaic supports multiple image formats including JPEG, PICT, GIF, etc.

## “Which” vs “That” Restrictive and Non-restrictive Clauses

The lawnmower, which is in the garage, is broken.

The lawnmower that is in the garage is broken.

The dinner, which was prepared by an expert chef, began at 9:00pm.

The dinner that was prepared by an expert chef began at 9:00pm. (This suggests that other dinners, prepared by novices, started at other times.)

Observing the distinction can remove ambiguity.

The mistake is almost always which for that.

If there is no preceding comma, then you probably want “that”.

(See Dupré Segment 17.)

## More Rules

Splitting an infinitive (Dupré Segment 38)

An infinitive is the *to be* form of a verb. For example *to shoot, to drive ...*

A *split infinitive* occurs when you place text between the "to" and the verb:

This event is sure to quickly degrade performance of the kernel.

The parser must be re-entrant in order to correctly handle macros.

Dupré argues strongly against splitting infinitives. Some argue that's it's OK. If you're tempted to do it, make sure that a different construction doesn't flow better.

# Punctuation

## Capitalization

- Capitalize section, chapter, figure if the "name" is mentioned.

"in Section 3.2" "from Chapter 4"

but

"the previous figure"

"the next chapter"

- Capitalize after a colon if what comes after is a complete sentence. (Correct the following.)

The result is always the same: reduction in the number of queues increases running time.

The result is always the same: Increased running time.

He could see the improvement: the subject now completed the tasks easily.

## Capitalization Cont.

Recast a sentence so it does not begin with a lower case letter (including Greek letters).

$\alpha$  and  $\beta$  must be palindromes.

Both  $\alpha$  and  $\beta$  must be palindromes

*recurse* is a recursive function.

The function *recurse* is recursive.

## Slash

Don't use a slash instead of a conjunction or preposition.

The user can then accept/reject the proposed correction.

The user can then accept or reject the proposed correction.

This bug/feature has existed since Release 2.0.

and/or is ugly

The exceptional cases can be retried and/or stored to a file.

## Parentheses

See Dupré Segment 37.

Enclose stuff in parentheses that the reader can skip the first time through. Parenthetical remarks provide secondary information, and are less important material than the main text.

When words inside parentheses constitute a full sentence, the period goes inside the parentheses.

The waveform will be aperiodic (except when the voltage is zero).

The waveform will be aperiodic. (The case where the voltage is zero is an exception.)

## Quotes

See Dupré Segment 41.

Usually punctuation at the end of a sentence moves inside quote marks.

The manual states that the meaning of error messages "should be obvious from the context."

### Exceptions

**One or two words in quotes**

After running the garbage collector, we may still have values that have "spoiled".

**The quoted material is for a computer**

After the prompt, type "mv a.out myfile".

**Quote to signify that the word is the object**

It's best not to use contractions like "can't".

## Colon

See Dupré Segment 15

“A colon signifies that what follows it expands on or explains what precedes it: This sentence is an example.”

You might use a colon instead of a period when the following sentence explains the first. A period also works. So does an em dash (widest dash “---”).

(Note that the construct following the colon can be a sentence fragment rather than a complete sentence.)

## Colon

### Example from Dupré

Lyn could tell that BB was going into heat. BB had been howling and yowling the entire night through.

**or**

Lyn could tell that BB was going into heat: BB had been howling and yowling the entire night through.

## Semicolon

See Dupré Segment 93

“The semicolon connects two sentences that are closely related to each other.”

What follows is a *complete sentence*, not a sentence fragment (string of words that don't constitute a sentence). When what follows is a *sentence fragment*, use a comma or an em dash, or a colon.

# Semicolon

## Examples from Dupré

This machine is difficult to use;  
it crashes whenever you change  
windows.

Holly and Misha cooked yet another  
humongous meal --- and refused to  
let anyone help clean up.

Max's heart was throbbing; Lyn's  
head was swimming.

## Hyphen

Adjectives (including nouns as adjectives) are right associative unless overridden by a hyphen.

large object repository (large repository for objects)

large-object repository (repository for large objects)

Except if the modifier is a commonly known phrase

operating systems tutorial

Adverbs don't need hyphens, as they modify adjectives and not noun phrases

a completely parsed program

## EM Dashes ---

### Dupré Segment 77

"An em dash --- the punctuation-mark dash --- delineates a thought that is not a critical part of your sentence." (It functions like parentheses.)

"Can function as a strong comma, or as a semicolon. It is a loosely defined break in a sentence that calls attention to the material that it sets off."

hyphen -

en dash --

em dash ---

## EM Dashes ---

### Examples from Dupré:

Minsky, Simon, Newell, and McCarthy  
--- all grand men --- decided to  
play a genuinely intelligent game.

**or**

Minsky, Simon, Newell, and McCarthy  
(all grand men) decided to play a  
genuinely intelligent game.

Shannon --- the founder of  
information theory --- gave an  
interesting statistical account of  
information content in written  
English.

## EN Dashes --

Dupré Segment 49

Used to indicate range

Read pages 5–23

But it is better to spell things out

Read pages 5 through 23.

in text, and use the en dash only in tables (and their titles), figures (and their captions), and page ranges given in references.

## EN Dashes --

Use the en dash to join an equal-weighted pair used as an adjective

Have you attended a life–work planning seminar?

This requires a deviceXXXXspecific driver.

This is the on–off switch

Theirs was a on–again–off–again relationship.

## If ... Then

Always put a comma before then.

If the speaker pauses, then the word might not be recognized.

Even if there is no then!

(Some warn not to leave the "then" off.)

If we close the application at this point, the changes will be lost.

## Subject-Verb

Put no comma between subject and verb, unless it is there to set off a clause

The least upper bound, of the utilization factor for the whole set of tasks, approaches unity.

(Either 0 or 2 commas between subject and verb.)

## Fonts

Can help or confuse the reader

- Font is important when a name or term is a regular word

The next token will be an and or or, but not not.

- Decide what fonts mean and be consistent

- variables

- code

- algorithms, systems, operators

When **factor** is on iteration  $i$  of the main loop, the statement  $x = f(x)$  will have executed at least  $i - 2$   $i - 2$  times