

Technical Writing Workshop — Matt Young — January 2004

Young's Laws

1. Tell a story, and don't be afraid of *I* and *we* (active voice)

We placed tubes into the cylinder at different levels.

not

Tubes *were placed* into the cylinder at different levels.

Hence, Young's First Law:

***Write the way you talk;
then polish***

2. Use short sentences with explicit descriptions

Hence, Young's Second Law:

Write one thought per sentence

(or, at least, one thought per independent clause)

3. Write for *your readers*, not for yourself (bright h. s. student?)

Hence, Young's Third Law:

Write for the uninformed reader

Do not write for someone who *already knows* what you know [Write for someone one educational level below yours, for example]

Do not assume *anything* is obvious [Data do not stand for themselves; they must be interpreted.]

4. Young's Zeroth Law (the most critical):

Do not listen to anyone else

Refs: Young, *The Technical Writer's Handbook*, University Science Books, Mill Valley, Calif., 1989.

<http://www.mines.edu/Academic/courses/physics/phgn471/wrttnpsntatn.htm>

Differences between expert and novice writers

Jon Leydens

Expert Writers

Concentrate on conveying meaning

Perform mechanical skills automatically
Revise after solid first draft, edit, edit, edit, edit, etc., etc., etc.

Draw from a broader, deeper, interconnected network of knowledge

Survey what they already know, need to know, and how they relate

Concentrate on larger chunks of text, emphasizing meaning

Combine what they know to construct new knowledge — synthesis or *knowledge transformation*

Write for the reader — prose helps reader to understand

Novice Writers

Concentrate on mechanical features such as grammar, spelling
Often lose sight of the meaning they want to convey

Focus on individual words and sentences
Revise superficially, proofread rather than edit

Draw from a more sparse network of content and discourse knowledge [whatever that means]

Spend less time surveying necessary knowledge

Write associatively, with 1 idea prompting next

Perform *knowledge telling* — reiterate what they already know

Write for the writer — prose does not synthesize ideas for the reader

Editor's last inch

1. Vogue words [words that are in fashion and are overused or imprecisely used]

Determine = measure, calculate, decide, learn, find out — It was *determined* = We *decided* [*L* and *g* *determine* the period of a pendulum; all you can do is measure it]

Create = write, design, build, draw [You *design and build* a weather station, not *create* it]

Reasonable = ??? (and to whom?) [Do not use *reasonable* as a substitute for *approximate* or for *good, fair*]

2. Some repts weak on references, documentation

What is the function of a reference?

What good is private communication? [None unless the source is clearly identified with contact information]

3. Units and symbols — use unit symbols not complete spellings (minor exceptions [a few kelvins *not* 300 kelvins])

Use ampere *not* Amp, kelvin *not* Kelvin (*but* A and K [symbol is capitalized when unit is named for person; see <http://www.mines.edu/~mmyoung/numbers.pdf>]); micrometer *not* micron

5E06 → 5×10^6

Avoid * for multiplication

How to customize Microsoft (ugh!) Word

You need to be able to type

Super- and subscripts

Equations

Symbols

Examples

x^2 *not* x^2

x_2 *not* x_2

$\text{kg}\cdot\text{m}/\text{s}^2$ *not* $\text{kg}*\text{m}/\text{s}^2$

$3\cdot 10^8$ *not* 3E08

$$y = \frac{mx + b}{\sqrt{1 - \frac{v^2}{c^2}}} \quad \textit{not} \quad y = (mx + b) / [1 - (v^2/c^2)]^{1/2}$$

So: Tools → Customize → Commands → Format

Superscript, Subscript (drag to toolbar)

Tools → Customize → Commands → Insert

Equation, Symbol (drag to toolbar)

And lots more (you can also remove useless icons)

4. Lawyer's words — be less formal

Said techniques, aforementioned report — There are *not* There exist

5. Capitalization and punctuation

- detector circuit *not* Detector Circuit — capitalize only names and trade names [*no* ugly ® on someone else's trademarks]
- Usually no comma before paren — Rutgers University Press, 2004 *not* Rutgers University Press, (2004)
- We have a dog and a cat *not* We have a dog, and a cat; We ate and drank *not* We ate, and drank

6. Use *will* not *would* (more forceful)

- The experiment would = The experiment will
- After rinsing it, I would clean = After rinsing it, I cleaned
- Please give me your approval to continue; when I receive it, I will ..., *not* if I receive it *would* ... [but be careful not to seem pushy, as in *I await your approval and will*]

7. *This* without antecedent — I have tested a pump that works at 10^{-6} Torr. *This* is needed to... . (*What* is needed? The pump, the pressure, or the testing?) [Never start a sentence with *This* unless *This* modifies a noun. Well, hardly ever.]

8. Circumlocutions and dead (unnecessary) words

- In the process of, serves to, it has been shown or found that, it is the case that
- Control of the experiment is *accomplished* by = The experiment is *controlled* by. Eclosion of the moths *occurs* in June = The moths *eclose* in June

9. Dangling and misplaced modifiers [never mind the difference]

Make sure that any -ing or -ed word that begins a sentence refers to the *subject* of the sentence [also *by* + -ing or -ed word; deep down, these are verbs and demand subjects]

- Partly assembled and dirty, I disassembled the pump
- By adjusting the initial conditions, a galaxy will form

Passive voice abuse

To maximize induction, the most turns of coil possible was needed
The sizes of coils were selected with radii of 3.3 cm Each coil was constructed with 1000 windings. The windings were kept at 1000 due to the limited amount of wire. Once the best arrangement and size had been determined, a coil with a greater or lesser number of loops will be developed.

We require *as many* turns as possible to maximize induction
We selected coils with radii of 3.3 cm Each coil had 1000 windings because we had limited wire. When we decide on the best *configuration* and *diameter*, we will *fabricate* a coil with more or fewer turns.

A test was chosen that would → *A test that would ... was chosen*
or, better, *We chose a test that would*

Misplaced modifiers and circumlocutions

By placing a resistor at the front of the amplifier filter circuit, a current will be allowed to flow causing a force on the system opposite any motion. → *Placing a resistor ... allows a current to flow. The current causes*

In terms of magnets, the horseshow magnet used from the previous semester was tested. → *We tested the horseshoe magnet used last semester.* [Or, if it is a new paragraph or topic, *As for the magnets, we tested*]

After mixing with a needed hardener (\$10 a gallon), only about 3 quarts will be needed. → *We will need only about 3 quarts of epoxy once it is mixed with a required hardener, which costs \$10 a gallon.*

Rubber stoppers will be applied around the edge of the base in order to avoid human laceration injuries. → *We will attach ... to prevent human laceration injuries.*

Unfortunately, due to the weight of the panels, the torque placed on this bracket could possibly cause the shape of the bracket to distort and therefore would be cause a safety hazard. *Exactly what is the hazard here?* [*distort the bracket wd be even better.*]

Comma-Kazes! [They can make you comma-tose.]

The mechanism will be a somewhat simple device, consisting of a semicircular piece of steel with holes in it, which will be connected to the bottom panel, and a pin-spring system, which will be attached to the top panel, by four bolts. → *The mechanism will be simple and consist of a semicircular piece of steel with holes in it. This piece will be connected to the bottom panel. A pin-spring system will be attached to the top panel by four bolts.*

Naked “this,” “these,” and “it”

This force eventually overcomes the force of static friction, and the spring will pull the block back to equilibrium along the cardboard. *This occurs because.... What occurs? Overcoming? Pulling?*

An emf will be induced in the coil when there is a change in magnetic flux; *this* is caused by ground motion. *What is caused? The change? The flux? The emf?*

It was not plausible to categorize the slopes from topographic maps without extensive analysis. *These* would be less accurate and not worth the time involved. *What would be less accurate? Maps? Analyses? Slopes?*

Acknowledgement. I mercilessly adapted some overheads from Jon Leydens and Deanna Young. Remember: When you steal from one author, it's plagiarism; if you steal from many, it's research. (Wilson Mizner)