

# Communication Training

July 11<sup>th</sup> – 13<sup>th</sup>, 2000

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Presented to the Staff of EPRI PEAC

# Part 1: Copyright

- Copyright, a definition
- Copyrightable material
- Copyright notice
- Copyright registration
- PEAC and EPRI PEAC documents
- Fair use
- Public Domain
- The World Wide Web

# What is “copyright”?

- The *right* to control the distribution and reproduction (*copy*) of original work is considered inalienable.
- Copyright Act of 1976 formalized this notion and afforded legal recourse to victims of copyright infringement.
- The Library of Congress stewards the archive of registered copyrighted material.

# What can I copyright?

You can't copyright *what* you say (content), but you can copyright the *way* you say it (structure, the way you express it).

# What can I copyright?

You can copyright original works:

- Stories
- Articles
- Software
- Graphics
- Letters
- Reports
- DOCUMENTS

# What can't I copyright?

You can't copyright:

- Ideas
- Facts
- Titles
- Names
- Short phrases
- Blank forms
- INFORMATION

# What is the significance of the copyright notice?

- All original copyrightable works are copyrighted upon creation (Berne copyright convention).
- The copyright notice is a warning to potential infringers.
- The correct form for a copyright notice is:

Copyright [or ©] [dates] [owner's name]

# Should I register original work with the Copyright Office?

- Normally, no.
- Registration affords pursuit of damages, due to infringement, through civil courts.
- Without registration, courts can only issue an injunction against the infringer, unless the infringement is a violation of federal law.

# Who owns the copyright for PEAC and EPRI PEAC documents?

- EPRI owns the copyright for all PEAC and EPRI PEAC serial publications (Briefs, Applications, and so on).
- Reports are usually work for hire, and the client therefore owns the copyright.

# What is “fair use”?

- The “fair use” exception to the copyright law enables people to use copyrighted material for research, commentary, news reporting, education, and so on.
- Fair use is typically short.
- Fair use is typically attributed to the copyright owner or author.
- The fair-use test roughly determines whether the use of copyrighted material infringes on the rights of the owner.

# The fair-use test

The fair-use test contains four criteria:

1. The purpose and nature of the use: Is the use commercial? Non-profit? Educational? To what degree is the material transformed?
2. The nature of the copyrighted material: Is the material worthy of protection? Trivial?
3. Relative amount: How much material is used?
4. Effect upon potential market: Does the use of the material harm the potential market of the source?

# What is the “public domain”?

The repository of all works that, for whatever reason, are not protected by copyright.

- Expired copyrights
- Government documents
- Works granted to the public domain by the author

# I can use anything I find on the Internet, right?

- No
- The Internet—including the World Wide Web, news groups, and email—is a publication medium just like print (newspapers, reports, and so on), audio (CDs, cassettes), and video (CDs, cassettes).
- You can use the information, but you cannot reproduce the manner of expression without fair use or permission from the owner.

## Further Reading

- Johnson, Dana R. “Copyright Issues on the Internet.” *Intercom Magazine*. pp. 16–17. June 1999.

## Part 2: Ten-Step Writing Process

- Think of writing as a serial process.
- Adherence to the process helps to ensure the quality of the finished product and the timeliness of delivery.
- All members of the project team must know their responsibilities in each step of the process.

# Step 1

Draft a strategy for completing the project.

- Time: A few minutes, a few hours
- Participants: Project manager
- Goal: To assemble the project team, if required, and assign responsibilities

## Step 2

Define scope, audience, and purpose.

- Time: A few minutes, a few hours
- Participants: All members of the project team

# Scope

Define the subject, focus, level of technical detail (tie-in with audience), length, quality (the “good enough” principle), form, and method of delivery of the document.

# Audience

- Determine the audience mix (primary, secondary, tertiary, marginal, generic).
- Determine the level of technical detail.
- Determine the vernacular.
  - Words they know
  - Words they use
  - Special vocabulary
- Determine political sensitivities.
- Determine demographics.

# Purpose

- Persuade (proposals, position papers)
- Educate (training material, tutorials)
- Inform (reports, magazine articles)
- Sell (brochures, resumsés)

## Step 3

Schedule the project.

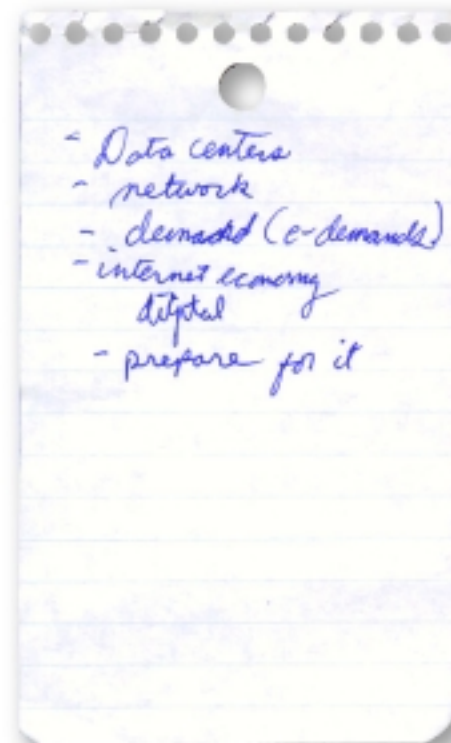
- Time: Less than one hour
- Participants: Project manager, in consultation with other team members and constrained by client
- Goal: To set deadlines for all activities—perhaps articulated by a gantt chart—allowing enough time for each team member to complete his or her responsibilities assigned in step 1.

## Step 4

Brainstorm for content.

- Time: Two to eight hours
- Participants
  - Project manager
  - Writer
  - Layout designer (for high-profile documents)
  - Illustrator (for high-profile documents)
- Goal: To generate ideas and novel relationships between those ideas using brainstorming techniques such as storyboarding, treeing, stream of consciousness, and, my favorite, free association.

# Example of Free Association



## The Result

**Brace yourself  
for the digital  
economy.**

## Step 5

Organize content into a rough outline.

- Time: Two to eight hours
- Participants: Writer
- Goal: To create a hierarchy of topics 1) based upon content from research, brainstorming, personal knowledge, and theft; 2) organized logically, chronologically, spatially, or other; 3) for facilitating composition.

## Step 6

Revise rough outline into an annotated outline.

- Time: Four to 16 hours
- Participants: Writer
- Goal: To 1) test your knowledge of each outline topic, 2) identify areas of the document that require more research or expert assistance, and 3) put some flesh on the bones of the document before writing begins in earnest.

## Step 7

- Compose the first draft of the document based upon the annotated outline. **Note** that many people start here, at step 7, because they are so familiar with the subject of the document.
- Time: Depends on the length and complexity of the document.
- Participants
  - Writer
  - Layout designer (for high-profile documents)
  - Illustrator (for high-profile documents)

## Step 7

- Goal: To 1) craft text by expanding the annotated outline, 2) create graphics based upon the instructions of the writer, and 3) compose text and graphics into a form that complies with the required style guide (if applicable) and is suitable for internal and external reviews.

## Step 8

- Conduct a peer (subject-matter expert) and/or audience review.
- Time: Allow a few days to a week.
- Participants: Project manager or publications manager (for high-profile publications)
- Goal: To 1) discover and remedy technical inaccuracies; 2) explore different ways to organize, express, and illustrate existing concepts; and 3) discover and remedy omissions that affect the efficacy of the document.

# A Note About Time Between Drafts

- The writer should allow him- or herself ample time between drafts (that is, before moving on to step 9).
- This time away from the document enables the writer to be more objective on subsequent readings, enabling the writer to adequately forget what he or she *intended* to say and evaluate what the text *does* say.
- Therefore, the writer may nearly eliminate the effects of prior knowledge on the evaluation of the document.
- The fancy term for this technique is “psychic distance.”

## Step 9

Revise the first draft based upon reviewer comments.

- Time: Depends on the length and complexity of the document, as well as the number and severity of required changes.
- Participants
  - Writer in consultation with project manager (for content)
  - Editor (for matters of style, grammar, punctuation, and so on, as well as content, if required)
  - Illustrator/designer (for matters aesthetic)
- Goal: To transform the document into a complete, accurate, and effective final draft for approval by the customer, project manager, and/or EPRI.

## Step 10

Conduct editing cycles.

- Time: Depends on the length and complexity of the document.
- Participants
  - Writer (for approval of changes)
  - Editor (for performing the cycles, which may include substantive editing, copy editing, and/or proof reading)
  - Illustrator (for modifying illustrations, photographs, charts, graphs, and so on)
- Goal: To polish the document for prepress, printing, and delivery to the customer and/or audience.

## Further Reading

- Hansen, James B. “Editing Your Own Writing.” *Intercom Magazine*. pp. 14–16. February 1997.
- Hart, Geoff. “The Five W’s: An Old Tool for the New Task of Audience Analysis.” *Technical Communication*. pp. 139–145. 2Q 1996.
- Layman, Eric. “Creating a Documentation Plan.” *Intercom Magazine*. pp. 24–25. January 1997.
- Leard, Barbara L. and Richard S. Peres. “Outlining: Taming the Savage Beast.” *Intercom Magazine*. p. 20. July/August 1998.
- Morris, M.D. “Scope Summaries.” *Intercom Magazine*. pp. 16–17. January 1999.
- Unity Printing. “Editors’ and Proofreaders’ Marks.”

## Part 3: Composing Documents

- Know your parts: The elements of a report
- Technical reading: A refined behavior
- Revising draft zero for review: Evoking the proper rhetorical role
- Clarifying editing tasks: Order is critical
- Resources for Writers
- The opening paragraph in papers and magazine articles: Arresting the reader's attention
- Using transitions effectively
- Using the right vocabulary

# Parts of a Report

- Cover
- Title page
- **Executive summary, abstract, or summary**
- Table of contents
- List of figures
- List of tables
- Body (including introduction and **conclusions or recommendations**)
- References or bibliography (may be an appendix)
- Appendices
- Attachments

# Executive Summary

What's the difference between:

- An abstract?
- A plain old summary?
- A conclusion?
- An executive summary?

# Abstract

- Placed at the front of the document (preface or front matter).
- Used for archival purposes such as databases.
- Used to inform readers about the content or describe the topics that are covered in the document.
- Length of the abstract is independent from the length of the document. Very, very brief (usually a paragraph or two).
- Two types of abstracts:
  - Informative
  - Descriptive

# Plain Old Summary

- Placed either at the end or beginning of the body or of each chapter/division, or in the front matter.
- Used to briefly remind the reader about the most significant elements of the body or chapter by repeating them in the order in which they appear.
- Length of the summary depends upon the length of the document.

# Conclusion

- Placed at the end of the body or end of each chapter/division.
- Used to briefly integrate the most significant elements of the body or chapter by telling the reader how and why the elements are important, what the elements mean when viewed as a whole, and what further steps, if any, should be taken.
- Length of the conclusion is usually independent from the length of the body or chapter/division.

# Executive Summary: A Paradox

- *executive* - *n.* a person or group of persons having administrative or supervisory authority, as in a company.
- *executive* - *adj.* designed for or used by executives.
- *summary* - *n.* a **comprehensive** and usually **brief** abstract, recapitulation, or compendium of **previously stated** facts or statements.

# Executive Summary: A Paradox

- Comprehensive but brief.
  - Let's modify this to say “brief but contains all the information that an executive needs to make an informed decision.”
  - How brief?
  - Rule of thumb: five to ten percent of the body length.
- Contains “previously stated facts or statements” yet goes before the table of contents.
  - Where does this fit into the writing process?
  - Write the executive summary LAST.
  - Then put it FIRST.

# Technical Reading

- All readers assume a role when they read.
  - Learner
  - Peer
  - Critic
  - Editor
  - Pleasure seeker
- This “rhetorical role” at first depends upon the reader’s purpose, but may be modified by the text itself.

# Characteristics of a Technical Reader

Compared to readers of other types of texts, technical readers:

- Read more slowly.
- Read more carefully.
- Use “silent speech” more.
- Anticipate a test of knowledge more.
- Are more likely to catch *ERRORS* of all types.

# Revising the Zero Draft for Review

Invoke the proper rhetorical role.

- Unsupported claims that counter traditional wisdom will transform a technical reader into a harsh critic of the document.
- Difficult and dense passages, too much technical detail, and unclear writing (among others) will transform a technical reader into a harsh critic of the author.
- Peppered grammatical and mechanical errors will transform a technical reader into an error detector of the trivial sort and cast doubt upon the author.

# Revising the Zero Draft for Review

Preventing the invocation of the wrong rhetorical role during the review stage.

- Ask a few colleagues to review the zero draft.
- Ask an editor to copyedit the zero draft.

Invoking the right rhetorical role will help reviewers focus on the content.

# Revising the Zero Draft for Review

Bottom line: Be aware of what you are saying. Let language trouble you for a while. Try to think like your audience, like the reviewers too, before you unleash your words upon them.

# Editing Tasks

- The order of the different types of document editing is critical to the healthy development of a document.
  1. “Substantive” or “content” editing
  2. Style editing (usually combined with copy editing)
  3. Copy editing
  4. Proof reading
- A fifth editing task, galley proofing, is used only for documents printed by vendors or printed in a periodical or book.

# Substantive Editing

During the substantive edit, the editor focuses on:

- Content
- Flow
- Logic
- Organization
- The *gestalt* (everything working together for one purpose)

# Style Editing

During a style edit, the editor focuses on conforming a document to a style guide. Sometimes this chore must be broken into sentence-level details and format because it is very difficult to do both at the same time.

- Sentence level: Reading required
- Format: No reading required

# Copy Editing

During the copy edit, the editor focuses on:

- Grammatical errors.
- Mechanical errors (“mechanics” is everything you cannot pronounce, such as punctuation and spelling).
- Composition errors, such as paragraph unity, transitions, incomplete thoughts, omitted or repeated words, improper word usage, and mangled syntax.
- Awkward or unwieldy phrasing, including tongue twisters, garden-path sentences, and ambiguities.

# Proof Reading

During the proof reading, the editor focuses on:

- Gross errors in layout, headings, images, contact information, page numbers, document numbers, page-to-page flow, and other arm's-length errors.
- If a galley is provided, the editor includes image and text quality, bleeding off the edges, and the form of special characters.

# Resources for Writers

- In-house resources
- Intranet resources
- Internet resources

# In-House Resources

- Support staff
- Guides:
  - EPRI Style Guide
  - Chicago Manual of Style
  - The Greg
- Dictionaries:
  - Webster's
  - IEEE

# Intranet Resources

- Templates and boilerplates
  - Reports (field, test, EPRI)
  - Proposals
  - Correspondence (letter, fax)
  - Whatever you ask for
- Documents database
- Graphics database
- Publications help
- Online style guides

# Available by August 1<sup>st</sup>, 2000

EPRI PEAC Resource Center - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Refresh Home Search Favorites History Mail Print

Address <http://www.epri-peac.com/cgi-bin/resourcecenter.cgi>

Links [Bank](#) [Fidelity](#) [TIAA CREF](#) [Fleet](#) [BellSouth](#) [Freeware](#) [Movies](#) [shopping](#)

## EPRI PEAC Employee Resource Center

**Hotline**

- Copyright Release
- Fax Template
- Field Report Template
- Legal Notice
- Letter Template (B&W)
- Letter Template (Color)
- Map To PEAC (JPG)
- Memo Template
- Mission Statement

**Publications Department**

- Products and Services
- Test Report Template
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**Multimedia**

**Templates & Boilerplates**

**Biographies & Profiles**

**Policies & Procedures**

**Find a Document**

**Document Database Administrator**

**Form Center**

**Bulletin Board**

**Employee Contacts**

# Internet Resources

- Find a Quote at <http://www.bartleby.com/index.html>
- Go to an online dictionary at <http://www.dictionary.com>
- Go to an online thesaurus at <http://www.thesaurus.com>
- Go to the UTK Library at <http://www.lib.utk.edu>

# The Opening Paragraph

- Thoughtfully crafted, the opening paragraph of a journal paper or magazine article can fix the reader's attitude toward:
  - The author's credibility
  - The significance of the paper or article
  - The relevance of the paper or article to the reader's interests

# Techniques for Arresting the Reader's Attention

The following techniques can be applied to any paragraph:

- Use question/answer.
- Use a scenario.
- Suspend your thesis for a dramatic tenor (for emphasis or surprise).
- Use a direct but dramatic first sentence.
- Pivot the paragraph on your thesis by using a mini-introduction, mini-exposition, and mini-conclusion.

# Different Techniques, Same Information

- Acme Industries claims that its proprietary ride-through device weighs only 20 pounds, contains no batteries, and supports a 3-kW load for 20 seconds.
- The company would not reveal the energy-storage technology used in the device.
- EPRI PEAC purchased one to determine its performance.

## Question/Answer

What weighs only 20 pounds, contains no batteries, and supports a 3-kW load for 20 seconds? According to Acme Industries, the answer is its new ride-through device, which contains a secret energy-storage technology. To test the claims of Acme, EPRI PEAC obtained a sample of this promising device for a thorough evaluation.

## Scenario

You're searching for an economic way to support ASD-driven processes. During a search on the Internet, you find a company selling a ride-through device with improbable specifications: It weighs only 20 pounds, contains no batteries, and supports a 3-kW load for 20 seconds. What's next? If you're EPRI PEAC Corporation, you test it.

# Suspension

For more than a dozen years, EPRI PEAC Corporation has been testing the claims of power-conditioner manufacturers. So when we received specifications from Acme Industries describing its new ride-through device, we immediately set about obtaining one. Acme's claims? Its ride-through device weighs only twenty pounds, contains no batteries, and supports a 3-kW load for 20 seconds.

## Direct

A ride-through device that weighs only 20 pounds, contains no batteries, and supports a 3-kW load for twenty seconds may sound futuristic, but according to Acme Industries, the future of power conditioning is here. Acme Industries is not revealing the energy-storage technology used in its device, and its untested claims have prompted EPRI PEAC Corporation to obtain a sample for laboratory testing.

## Pivot

Ride-through devices typically use batteries or other energy-storage technologies such as capacitors. To support a 3-kW load for 20 seconds, a ride-through device would require quite a large mass of energy storage. However, Acme Industries insists that its new device can provide such ride-through with a weight of only 20 pounds. Finding this claim improbable, EPRI PEAC Corporation obtained a sample of Acme's batteryless device for laboratory testing.

# Using Transitional Expressions

What transitional words and phrases do:

- Set a context for the reader to anticipate the direction of what follows (compare “however” and “moreover”).
- Qualify a statement (compare “For this purpose only” and “Without reservation”).
- Subordinate one idea to another compare “after. . .” and “only after. . .”).

# Types of Transitional Expressions

## Domain

- Logical
- Spatial
- Temporal
- Psychological
- Hierarchical

## Function

- Coordinating Conjunctions
- Subordinating Conjunctions
- Conjunctive Adverbs
- Adverbs

# Logical Transitions

- Because (compare to “since” and “as”)
- Whereas (compare to “while”)
- As a matter of fact (logic emphasized)

# Spatial

Most prepositions are spatial or temporal:

- Over the years
- In the laboratory
- Out of bounds
- Behind the door

# Temporal

- Since (compare to “because”)
- While (compare to “whereas”)
- After
- In due time

# Psychological

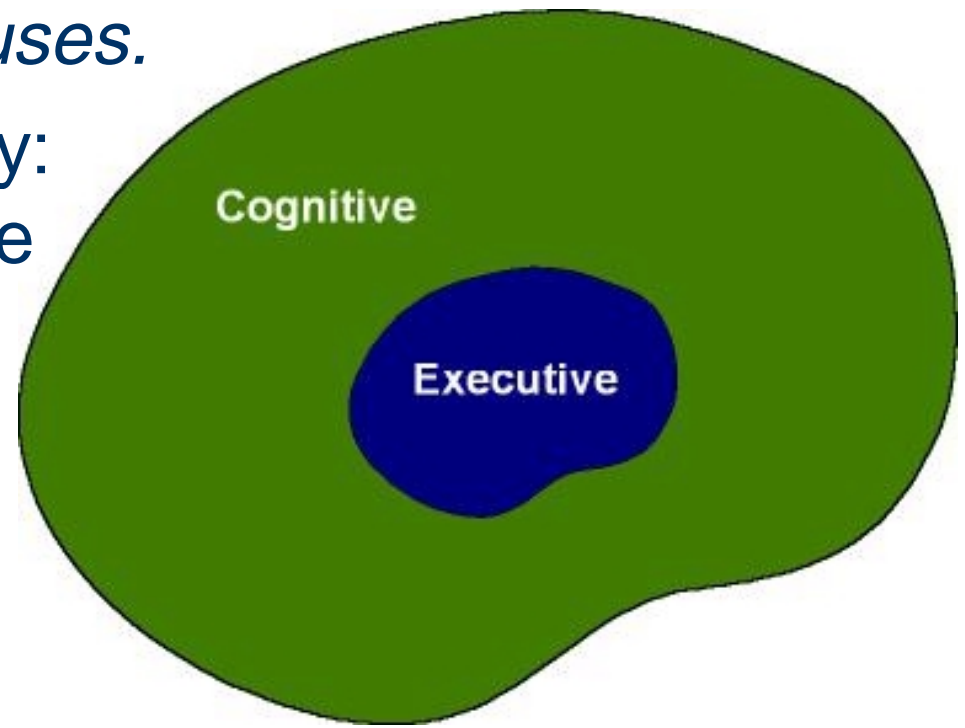
- Regrettably
- Fortunately
- Certainly

Example: Fortunately, the nameplate data was intact.

What does the adverb “Fortunately” modify?

# Using the Right Vocabulary

- Executive vocabulary: All the words that the intended audience *uses*.
- Cognitive vocabulary: All the words that the intended audience *knows*.



# Vocabulary Rule 1

- Never use words that the reader does not know unless you are teaching the reader.
- Does EPRI PEAC ever need to use such words?
- Yes, very often.
- Almost all of our technical documents teach.

## Vocabulary Rule 2

- Use words that the reader knows but does not use only when you want to impress the reader.
- Do we ever need to use such words?
- Yes, very often.
- Marketing material, magazine articles, and so on.

## Further Reading

- Connatser, Bradford R. “Language Expertise?” *PCS Newsletter*. pp. 4, 15. July/August 1997.
- Emanuel, Joseph T. “The Executive Summary: A Key to Effective Communication.” *Technical Communication*. pp. 78–82. 1Q 1996.
- Ramey, Janis G. “How to Write a Useful Abstract.” *Intercom Magazine*. pp. 11–12. May 1997.

## Part 4: Crafting Sentences

- Setting the context for understanding sentences
- I, me, who, whom: Does it matter?
- Agreement and weird words
- Passive versus active voice
- Phonology of the written wordPunctuation
- Initial caps
- Tricky words
- Long sentences
- Noun stacking

# Setting the Context for Understanding

- When a subordinate (or, secondary) part of a sentence qualifies the the main part of the sentence, put the subordinate part first.
- This recommendation does not comply with the prevailing prescription, “Put the main idea first.”
- The test: Does the subordinate part of the sentence significantly alter the meaning of the main part?

## Some Examples

- Does the following subordinate part (“because. . . elements”) significantly alter the meaning of the main part?
- The current waveform is smoother than the voltage waveform because the internal impedance contains inductive elements.
- No. It simply adds information to the main part (it answers “why”).

## Some Examples

- Does the following subordinate part (“as. . . 1988”) significantly alter the meaning of the main part?
- This warning was not required to be in advertisements as of November 28, 1988.
- Yes. Without the subordinate part, the timeframe of the main part is wide open.

## Some Examples

- Does the following subordinate part (“when. . . user”) significantly alter the meaning of the main part?
- Performance, reliability, and cost are high-priority issues, when sensitive electronic equipment is purchased by the end user.
- Yes. Without the subordinate part, the scope of the main part is infinite (it is true *always*).

# Personal and Relative Pronouns

- Modern English is a mish-mash of languages, including Latin, Greek, German, and French.
- The use of our personal and relative pronouns is based on Latin and Old English.
- Whereas modern English uses location to determine function (subject precedes verb, verb precedes object, and so on), Latin and Old English use “case markers” or word transformations to indicate how the word is used.

# Personal and Relative Pronouns

Doesn't sex always complicate things?



	First	Second	Third
Subjective	I/We	You/You	He,She,It/ They
Objective	Me/Us	You/You	Him,Her,It/ Them

Subjective	Who
Objective	Whom

# Personal and Relative Pronouns

- Subject of a sentence: Subjective case
- On the other side of the verb “to be”:  
Subjective case unless it sounds weird (“He is I”).
- Object of a verb: Objective case
- Object of a preposition: Objective case

# Agreement and Weird Words

- Subject and verb must match in number:
  - Apples are. . .
  - The apple is. . .
- Antecedents and pronouns must match in number:
  - I ate apples. They were good.
  - I ate the apple. It was good.
- The number of some subjects and antecedents are hard to determine by rule.
- When in doubt, use notional accord.

# Notional Accord

- Ask yourself, “Is the intention—that is, the notion—of the subject or antecedent singular or plural?”
- Use your mental ears to determine what sounds right.

# Notional Accord

- When the lights blinked in the auditorium, everyone returned to \_\_\_\_\_ seats.
- The antecedent is grammatically singular.
- What is the notion of it?
- When the lights blinked in the auditorium, everyone returned to their seats.

# Notional Accord

- The data \_\_\_\_\_ hard to analyze.
- The subject is grammatically plural.
- What is the notion of it?
- The data was hard to analyze.

# Passive versus Active Voice

- According to scientific research, passive sentences are no harder to process than active sentences.
- What other prejudices do we have against the poor passive?

# Passive versus Active Voice

## Prejudices:

- It bores the reader.
- It reverses the natural order of sentence elements (the object becomes the subject).
- It conceals the agent (sneaky).

# Passive versus Active

## Virtues:

- Enables the writer to emphasize the object.
- Enables the writer to emphasize the action.
- Enables the writer to de-emphasize the subject, not necessarily for evasion but perhaps to avoid repeating the same subject over and over again.

# Phonology of the Written Word

- Readers translate what they read into *silent speech*.
- The harder the material (such as the stuffs we produce), the more the reader relies upon silent speech to make meaning.
- Enabling silent speech will help the reader understand what you are trying to say.

# Tips for Enabling Silent Speech

When introducing new words that may be hard to pronounce, provide a key to pronunciation.

- The company installed a new device called a *mough*.

*Mough like Through?*

*Mough like Cough?*

*Mough like Bough?*

*Mough like Rough?*

*Mough like Dough?*

*Mough like Trough?*

# Tips for Enabling Silent Speech

Avoid optional plurals.

- “The grounding electrode(s) is a crucial element of good power quality.”
- Here, the speech mechanism processes the optional “s,” so that the subject and verb seem to disagree.

# Tips for Enabling Silent Speech

Don't use a hyphen to represent the word "to."

- "Neutral-ground" should be "neutral-to-ground."
- "15-20%" should be "15 to 20%."
- "Line-pole" should be "line-to-pole."

# Tips for Enabling Silent Speech

Put adverbs where they go naturally in speech.

- We might write, “A loop antenna also was used.”
- But we would say, “A loop antenna was also used.”

# Tips for Enabling Silent Speech

Avoid tongue twisters.

- “In an attempt to. . .”
- This phrase has too many like-sounding consecutive vowels.
- How about, “Attempting to. . .”?

# Tips for Enabling Silent Speech

Avoid the telegraphic style.

- Lift idler assembly, re-attach drive gear, and insert peg into higher or lower hole in frame.
- The articles help cadence and movement from word to word.
- Telegraphic style is acceptable for spot reading (captions, titles, and so on).

# Tips for Enabling Silent Speech

Avoid long initialisms.

- An acronym is an abbreviation of a group of words that can be pronounced (EPRI).
- An initialism is an abbreviation of a group of words that cannot reasonably be pronounced (PRTES).
- Consecutive like-sounding vowels retard the reading process (pee are tee ee ess).

# Punctuation

- Colon: Use a colon to introduce a list.
- Semicolon: Use a semicolon to separate items in a series *when the items themselves contain commas*. Avoid using the semicolon to link two sentences together.

# Punctuation

## Quotation marks

- Periods and commas always go inside a closing quotation mark.
- Colons and semicolons always go outside.
- Question marks and exclamation points go inside if they are part of what you are quoting. Otherwise, they go outside.

# Initial Caps

- Capitalize the first letters of formal or proper nouns.
  - The title of a document (*UPS Test Report*)
  - Somebody's name (Joe Smith)
  - The market name of a product (Whopper)
- Don't capitalize the first letters of:
  - Technologies (uninterruptible power supplies)
  - Words that are parenthetically abbreviated (uninterruptible power supply (UPS))

# Tricky Words

## Foreign plurals

- Data: The singular form “datum” is used only in a few disciplines. Therefore, “data” can be used as a singular form.
- Criteria: The singular form is “criterion.”
- Phenomena: The singular form is “phenomenon.”

# Tricky Words

## Common confusions

- Effect, affect
- Ensure, assure, insure
- Then, than
- That, which

# Long Sentences

- Short-term memory can hold seven units of information, plus or minus two.
- A single word is one unit, but when that word is combined with other words, those words may collapse into one unit (compare “TELEPHONE” to “PNEOETELH”).
- This collapsing of phrases (called “phrase-structure grammar”) enables readers to process long sentences.

# Long Sentences

- There is no magic metric for sentence length.
- When properly constructed, a sentence can be 30 or 40 words long and still be clear.
- However, if nested information does not collapse into units of understanding, then a long sentence can overwhelm short-term memory.

# Long Sentences

Example of a memory clogger:

The expected values of net magnitudes of harmonic currents per-charger from an EV concentration operating with a uniform start-time probability distribution function lasting 8 hours are roughly one-half those of the full-load harmonic current magnitude of a single charger.

# Noun Stacking

- Also known as:
  - Noun string
  - Portmanteau phrase
- A noun stack is a long string of nouns and adjectives.
- One of the biggest problems in technical documents.

# Noun Stacking

- What's wrong with a long string of nouns and adjectives?
- By condensing a description into a noun string, you squeeze out words that reveal the relationships between the words in the string.

## Noun Stacking

- Wiring and grounding can easily affect **mitigation equipment performance**.
- The portmanteau can cause confusion. That is, the reader can interpret “mitigation equipment” as the object, when in fact the object is “performance.”
- Unpack the portmanteau.
- Wiring and grounding can easily affect **the performance of mitigation equipment**.

# Unpacking Portmanteaus

The portmanteau:

- available mitigation equipment test information

The fix:

- available test information on mitigation equipment

# Unpacking Portmanteaus

The portmanteau:

- most electronic system misoperations attributed to power disturbances

The fix:

- most misoperations of electronic systems that are attributed to power disturbances

# Unpacking Portmanteaus

The portmanteau:

- To this end, a surge environment classification scheme is presented.

The fix:

- To this end, a scheme to classify the surge environment is presented.

# Unpacking Portmanteaus

The portmanteau:

- How would you classify the employed energy shortfall makeup technology?

The fix:

- How would you classify the technology that the custom power device employs to make up for energy shortfalls?

# Unpacking Portmanteaus

The portmanteau:

- critical equipment electrical specifications

The fix:

- electrical specifications of critical equipment

# Unpacking Portmanteaus

The portmanteau:

- process equipment manufacturer

The fix:

- manufacturer of process equipment

## Further Reading

- Connatser, Bradford R. “Setting the Context for Understanding.” *Technical Communication*. pp. 287–291. 2Q 1994.
- Connatser, Bradford R. “The Things Our Readers Do.” *Intercom Magazine*. pp. 14–15. December 1996.
- *USA Today*. “Teacher Colleges Shun Best Way to Teach Reading.” p. 14A. Wednesday, May 17, 2000.