

**PART III**

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### **Top Ten Web Design Mistakes**

Web design and usability expert Jakob Nielsen publishes an annual list of *Top Ten Web Design Mistakes* each year. In 2004, he reported that many Web sites are getting better at using minimalist design, maintaining archives, and offering comprehensive services. But for every two steps forward, there's at least one step backward.

At the top of Nielsen's widely publicized list this year: "unclear statement of purpose." As Nielsen writes: "Many companies, particularly in the high tech industry, use vague or generic language to describe their purpose. Obscuring this basic fact makes it much harder for users to interpret a websites's information and services."

Other significant Web design flaws include undated content; small thumbnail images of large, detailed photos; and long lists that can't be "winnowed by attributes." Nielsen concludes that Web design is improving as designers learn to account for users and their needs. But technology and design concerns often override user needs and rhetorical contexts, and the result is that users get annoyed and quickly click over to another site. ♦

# 12

## Organizing for Users

PARTITIONING AND CLASSIFYING

OUTLINING

STORYBOARDING

PARAGRAPHING

SEQUENCING

CHUNKING

CREATING AN OVERVIEW

Our thinking rarely occurs in a neat, predictable sequence, but we cannot report our ideas in the same random order in which they occur. Instead of forcing users to organize unstructured information themselves, we shape this material for their understanding. In setting out to organize, we face questions like these:

To answer these questions, writers rely on the organizing strategies discussed below.

## PARTITIONING AND CLASSIFYING

Partition and classification are both strategies for sorting things out. *Partition* deals with *one thing only*. It separates that thing into parts, chunks, sections, or categories for closer examination (say, a report separated into introduction, body, and conclusion).

- *What are its parts?*
- *What is it made of?*

Classification deals with *an assortment of things* that share certain similarities. It groups these things systematically (for example, grouping electronic documents into categories—reports, memos, Web pages).

- *What relates to what?*
- *What belongs where?*

Whether you choose to apply partition or classification depends on your purpose. For example, to describe a personal computer system to a novice, you might partition the system into *CPU, keyboard, printer, power cord*, and so on; for a seasoned user who wants to install an expansion card, you might partition the system into *processor-direct slot, video-in slot, communication slot*, and so on. On the other hand, if you have twenty-five software programs to arrange so you can easily locate the one you want, you will need to group them into smaller categories. You might want to classify programs according to function (*word processing, graphics, database management*) or according to expected frequency of use or relative ease of use—or some other basis.

Close examination of any complex problem usually requires both partition and classification, as in this example:

### Data in Random Form

While researching the health effects of electromagnetic fields (EMFs), you encounter information about various radiation sources; ratio of risk to level of exposure; workplace studies; lab studies of cell physiology,

biochemistry, and behavior; statistical studies of diseases in certain populations; conflicting expert views; views from local authorities, and so on. ...

Figure 12.1 shows how classification might organize this random collection of EMF data into manageable categories. (Note that many of the Figure 12.1 categories might be divided further into subcategories, such as *kitchen sources*, *workshop sources*, *bedroom sources*, and so on.) Figure 12.2 shows how partition might reveal the parts of a single concept (the electromagnetic spectrum).

In organizing documents, writers use partition and classification routinely, in a process we know as *outlining*.

## OUTLINING

When material is left in its original, unstructured form, people waste time trying to understand it. With an outline, you move from a random collection of ideas to an organized list that helps users follow your material.

### A Document's Basic Shape

*How* should you organize to make the document logical from the user's point of view? Begin with the basics. Useful writing of any length—a book, chapter, news article, letter, or memo—typically follows this pattern:

- The *introduction* provides orientation by doing any of these things: explaining the topic's origin and significance and the document's purpose; briefly identifying your intended audience and your information sources; defining specialized terms or general terms that have special meanings in your document; accounting for limitations such as incomplete or questionable data; previewing the major topics to be discussed in the body section.

Some introductions need to be long and involved; others are better short and to the point. If you don't know the users well enough to give only what they need, use subheadings so they can choose what they want to read.

- The *body* delivers on the promise implied in your introduction ("Show me!"). Here you present your data, discuss your evidence, lay out your case, or tell users what to do and how to do it. Body sections come in all different sizes, depending on how much users need and expect.

Body sections are titled to reflect their specific purpose: "Description and Function of Parts," for a mechanism description; "Required Steps," for a set of instructions; "Collected Data," for a feasibility analysis.

- The *conclusion* of a document has assorted purposes: It might evaluate the significance of the report, reemphasize key points, take a position, predict an outcome, offer a solution, or suggest further study. If the issue is straightforward, the conclusion might be brief and definite. If the issue is complex or controversial, the conclusion might be lengthy and open-ended.

Conclusions vary with the document. You might conclude a mechanism description by reviewing the mechanism's major parts and then briefly describing one operating cycle. You might conclude a comparison or feasibility report by offering judgments about the facts you've presented and then recommending a course of action.

**NOTE** *All readers expect a definite beginning, middle, and ending that provide orientation, discussion, and review. But specific people want these sections tailored to their expectations. Identify your readers' expectations by (1) anticipating their probable questions (pages 29, 46), and (2) visualizing the sequence in which users would want these questions answered.*

The computer is especially useful for rearranging outlines until they reflect the sequence in which you expect users to approach your message.

### **The Formal Outline**

A simple list usually suffices for organizing short documents or as a tentative outline for longer documents. An author or team rarely begins by developing a formal outline when planning a manuscript. But at some stage (often a *later* stage) in the writing process, a long, complex document usually calls for a more systematic, formal outline. Here is a formal outline for the report examining the health effects of electromagnetic fields (pages 617–28):

## **Children Exposed to EMFs: A Risk Assessment**

### **I. INTRODUCTION**

- A. Definition of electromagnetic fields
- B. Background on the health issues
- C. Description of the local power line configuration
- D. Purpose of this report
- E. Brief description of data sources
- F. Scope of this inquiry

### **II. DATA SECTION [Body]**

- A. Sources of EMF exposure
  1. power lines
  2. home and office
    - a. kitchen
    - b. workshop [and so on]



- 3. natural radiation
- 4. risk factors
  - a. current intensity
  - b. source proximity
  - c. duration of exposure
- B. Studies of health effects
  - 1. population surveys
  - 2. laboratory measurements
  - 3. workplace links
- C. Conflicting views of studies
  - 1. criticism of methodology in population studies
  - 2. criticism of overgeneralized lab findings
- D. Power industry views

## 1. UNCERTAINTY ABOUT RISK

- 2. confusion about risk avoidance
- E. Risk-avoidance measures
  - 1. nationally
  - 2. locally

## III. CONCLUSION

- A. Summary and overall interpretation of findings
- B. Recommendations

**NOTE** *Long reports often begin directly with a statement of purpose. For the intended audience (i.e., generalists) of this report, however, the technical topic must first be defined so that users understand the context. Also, each level of division yields at least two items. If you cannot divide a major item into at least two subordinate items, retain only your major heading.*

A formal outline easily converts to a table of contents for the finished report, as shown in Chapter 24.

**NOTE** *Because they serve mainly to guide the writer, minor outline headings (such as items [a] and [b] under II.A.1 above) may be omitted from the table of contents or the report itself. Excessive headings make a document seem fragmented.*

In technical documents, the alphanumeric notation shown above often is replaced by decimal notation:

## 2.0 DATA SECTION

### 2.1 Sources of EMF Exposure

#### 2.1.1 home and office

##### 2.1.1.1 kitchen

##### 2.1.1.2 workshop [and so on]

#### 2.1.2 power lines

#### 2.1.3 natural radiation

#### 2.1.4 risk factors

- 2.1.4.1 current intensity
- 2.1.4.2 source proximity
- 2.1.4.3 [and so on]

The decimal outline makes it easier to refer users to specifically numbered sections of the document (“See 2.1.2”). While both systems achieve the same organizing objective, decimal notation usually is preferred in business, government, and industry.

In some cases, you may wish to expand your *topic outline* into a *sentence outline*, in which each sentence serves as a topic sentence for a paragraph in the report:

## 2.0 DATA SECTION

2.1 Although the 2 million miles of power lines crisscrossing the United States have been the focus of the EMF controversy, potentially harmful waves also are emitted by household wiring, appliances, electric blankets, and computer terminals.

2.1.1 [and so on]

Sentence outlines are used mainly in collaborative projects in which various team members prepare different sections of a long document.

**NOTE** *A survey of the influence of computers on workplace writing found that traditional, formal outlining was giving way to outlining in the form of “notes on audience, purpose, direction, key content points, tone.” These outlines were “flexible, sketchy, punctuated by arrows, numbers, or exclamation points; they looked more like lists” (Halpern 179).*

*Outlines needn’t be pretty, as long as they help you control your material.*

*Also, the neat and ordered outlines in this book show the final **products** of writing and organizing, not the **process**, which is often initially messy and chaotic.*

*Some writers don’t start out with an outline at all! Instead, they scratch and scribble with pencil and paper or click away at the keyboard, making lots of false starts as they hammer out some kind of acceptable draft; only then do they outline to get their thinking straight.*

Not until the final draft of a long document do you compose the finished outline, which serves as a model for your table of contents, as a check on your reasoning, and as a way of revealing to users a clear line of thinking.

### **Outlining and Reorganizing on a Computer**

Most word-processing programs enable you to work on your document and your outline simultaneously. An “outline view” of the document helps you to see relationships among ideas at various levels, to create new headings, to add text beneath headings, and to move headings and their subtext (Figure 12.3). You also can *collapse* the outline view to display the headings only.

Switch between “normal view” (to work on your text) and “outline view” (to examine the arrangement of material). You can add or delete headings or text and reorganize whole sections of your document (*Microsoft Word* 504–05).

As a visual alternative to traditional outlining, many computer graphics programs enable you to display prose outlines as tree diagrams (page 314).

**NOTE** *No single form of outline should be followed slavishly by any writer. The organization of any document ultimately is determined by the user’s needs and expectations. In many cases, specific requirements about a document’s organization and style are spelled out in a company’s style guide.*

### **Organizing for Cross-Cultural Audiences**

Different cultures have different expectations for how information should be organized. For instance, a paragraph in English typically begins with a main idea directly expressed as a topic or orienting sentence and followed by specific support; any digression from this main idea is considered harmful to the paragraph’s *unity*. Some cultures, however, consider digression a sign of intelligence or politeness. To native readers of English, the long introductions and digressions in certain Spanish or Russian documents might seem tedious and confusing, but a Spanish or Russian reader might view the more direct organization of English as overly abrupt and simplistic (Leki 151).

Expectations differ even among same-language cultures. British correspondence, for instance, typically expresses the bad news directly up front, instead of taking the indirect approach preferred in the United States. A bad news letter or memo appropriate for a U.S. audience could be considered evasive by British readers (Scott and Green 19).

### **The Report Design Worksheet**

As an alternative to the audience and use profile sheet (page 36), the worksheet in Figure 12.4 can supplement your outline and help you focus on your audience and purpose.<sup>1</sup>

## STORYBOARDING

As you prepare a long document, one useful organizing tool is the *storyboard*, a sketch of the finished document. Much more specific and visual than an outline, a storyboard maps out each section (or module) of your outline, topic by topic, to help you see the shape and appearance of the entire document in its final form. Working from a storyboard, you can rearrange, delete, and insert material as needed—without having to wrestle with a draft of the entire document.

Storyboarding is especially helpful in collaborative writing, in which various team members prepare various parts of a document and then get together to edit and assemble their material. In such cases, storyboard modules may be displayed on whiteboards, posterboards, or flip charts.

**NOTE** *Try creating a storyboard after writing a full draft, for a bird's-eye view of the document's organization.*

Figure 12.5 displays one storyboard module based on Section II.A of the outline on page 223. Notice how the module begins with the section title, describes each text block and visual block, and includes a list of suggestions about special considerations.

## PARAGRAPHING

Users look for orientation, for shapes they can recognize. But a document's shape (introduction, body, conclusion) depends on the smaller shapes of each paragraph.

Although paragraphs can have various shapes and purposes (paragraphs of introduction, conclusion, or transition), our focus here is on *support paragraphs*. Although part of the document's larger design, each of these middle blocks of thought can usually stand alone in meaning and emphasis.

### The Support Paragraph

All the sentences in a support paragraph relate to the main point, which is expressed as the *topic sentence*:

Computer literacy has become a requirement for all "educated" people.  
A video display terminal can endanger the operator's health.

Chemical pesticides and herbicides are both ineffective and hazardous.

Each topic sentence introduces an idea, judgment, or opinion. But in order to grasp the writer's exact meaning, users need explanation. Consider the third statement:

Chemical pesticides and herbicides are both ineffective and hazardous.

Imagine that you are a researcher for the Epson Electric Light Company, assigned this question: Should the company (1) begin spraying pesticides and herbicides under its power lines, or (2) continue with its manual (and nonpolluting) ways of minimizing foliage and insect damage to lines and poles? If you simply responded with the preceding assertion, your employer would have further questions:

- *Why, exactly, are these methods ineffective and hazardous?*
- *What are the problems?*
- *Can you explain?*

To answer these questions and to support your assertion, you need a fully developed paragraph:

<sup>1</sup>**Chemical pesticides and herbicides are both ineffective and hazardous.** <sup>2</sup>Because none of these chemicals has permanent effects, pest populations invariably recover and need to be resprayed. <sup>3</sup>Repeated applications cause pests to develop immunity to the chemicals. <sup>4</sup>Furthermore, most of these products attack species other than the intended pest, killing off its natural predators, thus actually increasing the pest population. <sup>5</sup>Above all, chemical residues survive in the environment (and living tissue) for years, often carried hundreds of miles by wind and water. <sup>6</sup>This toxic legacy includes such biological effects as birth deformities, reproductive failures, brain damage, and cancer. <sup>7</sup>Although intended to control pest populations, these chemicals ironically threaten to make the human population their ultimate victims. <sup>8</sup>I therefore recommend continuing our present control methods.

Most standard paragraphs in technical writing have an introduction-body-conclusion structure. They begin with a clear topic (or orienting) sentence stating a generalization. Details in the body support the generalization.

### **The Topic Sentence**

Users look to a paragraph's opening sentences for a framework. When the paragraph's main point is missing, users struggle to grasp your meaning. Read this next paragraph once only.

Besides containing several toxic metals, it percolates through the soil, leaching out naturally present metals. Pollutants such as mercury invade surface water, accumulating in fish tissues. Any organism eating the fish—or drinking the water—in turn faces the risk of heavy metal poisoning. Moreover, acidified water can release heavy concentrations of lead, copper, and aluminum from metal plumbing, making ordinary tap water hazardous.

Can you identify the paragraph's main idea? Probably not. Without the topic sentence, you have no framework for understanding. You don't know where to place the emphasis: on polluted fish, on metal poisoning, on tap water?

Now, insert the following sentence at the beginning and reread the paragraph:

Acid rain indirectly threatens human health.

With this orientation, the message's exact meaning becomes obvious.

The topic sentence should appear *first* (or early) in the paragraph, unless you have good reason to place it elsewhere. Think of your topic sentence as “the one sentence you would keep if you could keep only one” (U.S. Air Force Academy 11). In some instances, a paragraph's main idea may require a “topic statement” consisting of two or more sentences, as in this example:

The most common strip-mining methods are open-pit mining, contour mining, and auger mining. The specific method employed will depend on the type of terrain that covers the coal.

The topic sentence or topic statement should focus and forecast. Don't write *Some pesticides are less hazardous and often more effective than others* when you mean *Organic pesticides are less hazardous and often more effective than their chemical counterparts*. The first topic sentence leads everywhere and nowhere; the second helps us focus, tells us what to expect from the paragraph. Don't write *acid rain poses a danger*, leaving readers to decipher what you mean by *danger*. If you mean that *Acid rain is killing our lakes and polluting our water supplies*, say so.

### Paragraph Unity

A paragraph is unified when every word, phrase, and sentence directly supports the topic sentence.

**Solar power offers an efficient, economical, and safe solution to the Northeast's energy problems.** To begin with, solar power is highly efficient. Solar collectors installed on fewer than 30 percent of roofs in the Northeast would provide more than 70 percent of the area's heating and air-conditioning needs. Moreover, solar heat

collectors are economical, operating for up to twenty years with little or no maintenance. These savings recoup the initial cost of installation within only ten years. Most important, solar power is safe. It can be transformed into electricity through photovoltaic cells (a type of storage battery) in a noiseless process that produces no air pollution—unlike coal, oil, and wood combustion. In sharp contrast to its nuclear counterpart, solar power produces no toxic waste and poses no catastrophic danger of meltdown. Thus, massive conversion to solar power would ensure abundant energy and a safe, clean environment for future generations.

One way to destroy unity in the paragraph above would be to veer from the focus on *efficient*, *economical*, and *safe* by introducing topics such as the differences between active and passive solar heating, or manufacturers of solar technology, or the advantages of solar power over wind power.

Every topic sentence has a key word or phrase that carries the meaning. In the pesticide-herbicide paragraph (page 232), the key words are *ineffective* and *hazardous*. Anything that fails to advance the meaning of *ineffective* and *hazardous* throws the paragraph—and the users—off track.

### Paragraph Coherence

In a coherent paragraph, everything not only belongs, but also sticks together: Topic sentence and support form a *connected line of thought*, like links in a chain.

Paragraph coherence can be damaged by (1) short, choppy sentences; (2) sentences in the wrong order; (3) insufficient transitions and connectors (Appendix C) for linking related ideas; or (4) an inaccessible line of reasoning. Here is how the solar energy paragraph might become incoherent:

Solar power offers an efficient, economical, and safe solution to the Northeast's energy problems. Unlike nuclear power, solar power produces no toxic waste and poses no danger of meltdown. Solar power is efficient. Solar collectors could be installed on fewer than 30 percent of roofs in the Northeast. These collectors would provide more than 70 percent of the area's heating and air-conditioning needs. Solar power is safe. It can be transformed into electricity. This transformation is made possible by photovoltaic cells (a type of storage battery). Solar heat collectors are economical. The photovoltaic process produces no air pollution.

In the above paragraph, the second sentence, about safety, belongs near the end. Also, because of short, choppy sentences and insufficient links between ideas, the paragraph reads more like a list than like a flowing discussion. Finally, a concluding sentence is needed to complete the chain of

reasoning and to give readers a clear perspective on what they've just read.

Here, in contrast, is the original, coherent paragraph with sentences numbered for later discussion and with transitions and connectors shown in boldface. Notice how this version reveals a clear line of thought:

<sup>1</sup>Solar power offers an efficient, economical, and safe solution to the Northeast's energy problems. <sup>2</sup>**To begin with**, solar power is highly efficient. <sup>3</sup>Solar collectors installed on fewer than 30 percent of roofs in the Northeast would provide more than 70 percent of the area's heating and air-conditioning needs. <sup>4</sup>**Moreover**, solar heat collectors are economical, operating for up to twenty years with little or no maintenance. <sup>5</sup>**These savings** recoup the initial cost of installation within only ten years. <sup>6</sup>**Most important**, solar power is safe. <sup>7</sup>**It** can be transformed into electricity through photovoltaic cells (a type of storage battery) in a noiseless process that produces no air pollution—unlike coal, oil, and wood combustion. <sup>8</sup>**In sharp contrast** to its nuclear counterpart, solar power produces no toxic waste and poses no danger of catastrophic meltdown. <sup>9</sup>**Thus**, massive conversion to solar power would ensure abundant energy and a safe, clean environment for future generations.

The line of thinking in this paragraph seems easy enough to follow:

1. The topic sentence establishes a clear direction.
- 2-3. The first reason is given and then explained.
- 4-5. The second reason is given and explained.
- 6-8. The third and major reason is given and explained.
9. The conclusion reemphasizes the main point and completes the chain of reasoning.

To reinforce the logical sequence, related ideas are combined in individual sentences, and transitions and connectors signal clear relationships. The whole paragraph sticks together.

### **Paragraph Length**

Paragraph length depends on the writer's purpose and the user's capacity for understanding. Writing that contains highly technical information or complex instructions may use short paragraphs or perhaps a list. In writing that explains concepts, attitudes, or viewpoints, support paragraphs generally run from 100 to 300 words.



But word count really means very little. What matters is *how thoroughly the paragraph makes your point*. A flabby paragraph buries users in needless words and details; but just skin-and-bones leaves readers looking for the meat.

Try to avoid too much of anything. A clump of short paragraphs can make some writing seem choppy and poorly organized, but a stretch of long ones is tiring. Occasional paragraphs of only one or two sentences can focus the user's attention and highlight important ideas.

**NOTE**      *In writing displayed on computer screens, short paragraphs and lists are especially useful because they allow for easy scanning and navigation.*

## SEQUENCING

Items in logical sequence follow some pattern that reveals a relationship: cause-and-effect, comparison-contrast, and so on. For instance, a progress report usually follows a *chronological* sequence (events in order of occurrence). An argument for a companywide exercise program would likely follow an *emphatic* sequence (benefits in order of importance—least to most, or vice versa).

A single paragraph usually follows one particular sequence. A longer document may use one particular sequence or a combination of sequences. Some common sequences are described below.

### Spatial Sequence

A spatial sequence begins at one location and ends at another. It is most useful in describing a physical item or a mechanism. Describe the parts in the sequence in which users would actually view the parts or in the order in which each part functions: (left to right, inside to outside, top to bottom). This description of a hypodermic needle proceeds from the needle's base (hub) to its point:

A hypodermic needle is a slender, hollow steel instrument used to introduce medication into the body (usually through a vein or muscle). It is a single piece composed of three parts, all considered sterile: the hub, the cannula, and the point. The hub is the lower, larger part of the needle that attaches to the necklike opening on the syringe barrel. Next is the cannula (stem), the smooth and slender central portion. Last is the point, which consists of a beveled (slanted) opening, ending in a sharp tip. The diameter of a needle's cannula is indicated by a gauge number; commonly, a 24–25 gauge needle is used for subcutaneous injections. Needle lengths are varied to suit individual needs. Common lengths used for subcutaneous injections are 3

8, 1

2, 5

8, and 3

4 inch. Regardless of length and diameter, all needles have the same functional design.

Product and mechanism descriptions almost always have some type of visual to amplify the verbal description.

### **Chronological Sequence**

A chronological sequence follows the actual sequence of events. Explanations of how to do something or how something happened generally are arranged according to a strict time sequence: first step, second step, and so on.

Instead of breaking into a jog too quickly and risking injury, take a relaxed and deliberate approach. Before taking a step, spend at least ten minutes stretching and warming up, using any exercises you find comfortable. (After your first week, consult a jogging book for specialized exercises.) When you've completed your warmup, set a brisk pace walking. Exaggerate the distance between steps, taking long strides and swinging your arms briskly and loosely. After roughly one hundred yards at this brisk pace, you should feel ready to jog. Immediately break into a very slow trot: lean your torso forward and let one foot fall in front of the other (one foot barely leaving the ground while the other is on the pavement). Maintain the slowest pace possible, just above a walk. *Do not bolt out like a sprinter!* The biggest mistake is to start fast and injure yourself. While jogging, relax your body. Keep your shoulders straight and your head up, and enjoy the scenery—after all, it is one of the joys of jogging. Keep your arms low and slightly bent at your sides. Move your legs freely from the hips in an action that is easy, not forced. Make your feet perform a heel-to-toe action: land on the heel; rock forward; take off from the toe.

The paragraph explaining how acid rain endangers human health (page 232) offers another example of chronological sequence.

### **Effect-to-Cause Sequence**

Problem-solving analyses typically use a sequence that first identifies a problem and then traces its causes.

Modern whaling techniques nearly brought the whale population to the threshold of extinction. In the nineteenth century, invention of the steamboat increased hunters' speed and mobility. Shortly afterward, the grenade harpoon was invented so that whales could be killed quickly and easily from the ship's deck. In 1904, a whaling station opened on Georgia Island in South America. This station became the gateway to Antarctic whaling for the nations of the world. In 1924, factory ships were designed that enabled round-the-clock whale tracking and processing. These ships could reduce a ninety-foot whale to its by-products in roughly thirty minutes. After World War II, more powerful boats with remote sensing devices gave a final boost to the whaling industry. The number of kills had now increased far beyond the whales' capacity to reproduce.

### **Cause-to-Effect Sequence**

A cause-to-effect sequence follows an action to its results. Below, the topic sentence identifies the causes, and the remainder of the paragraph discusses its effects.

Some of the most serious accidents involving gas water heaters occur when a flammable liquid is used in the vicinity. The heavier-than-air vapors of a flammable liquid such as gasoline can flow along the floor—even the length of a basement—and be explosively ignited by the flame of the water heater’s pilot light or burner. Because the victim’s clothing frequently ignites, the resulting burn injuries are commonly serious and extremely painful. They may require long hospitalization, and can result in disfigurement or death. *Never, under any circumstances, use a flammable liquid near a gas heater or any other open flame.* (Consumer Product Safety Commission)

### **Emphatic Sequence**

Emphasis makes important things stand out. Reasons offered in support of a specific viewpoint or recommendation often appear in workplace writing, as in the pesticide-herbicide paragraph on page 232 or the solar energy paragraph on page 233. For emphasis, the reasons or examples are usually arranged in decreasing or increasing order of importance.

Although strip mining is safer and cheaper than conventional mining, it is highly damaging to the surrounding landscape. Among its effects are scarred mountains, ruined land, and polluted waterways. Strip operations are altering our country’s land at the rate of 5,000 acres per week. An estimated 10,500 miles of streams have been poisoned by silt drainage in Appalachia alone. If strip mining continues at its present rate, 16,000 square miles of U.S. land will eventually be stripped barren.

In this paragraph, the most dramatic example appears last, for greatest emphasis.

### **Problem-Causes-Solution Sequence**

The problem-solving sequence proceeds from description of the problem to diagnosis to solution. After outlining the cause of the problem, this next paragraph explains how the problem has been solved:

On all waterfront buildings, the unpainted wood exteriors had been severely damaged by the high winds and sandstorms of the previous winter. After repairing the damage, we took protective steps against further storms. First, all joints, edges, and sashes were treated with water-repellent preservative to protect against water damage. Next, three coats of nonporous primer were applied to all exterior surfaces to prevent paint from blistering and peeling. Finally, two coats of wood-quality latex paint were applied over the nonporous primer. To keep coats of paint from future separation, the first coat was applied within two weeks of the priming coats, and the second within two

weeks of the first. Two weeks after completion, no blistering, peeling, or separation has occurred.

### **Comparison-Contrast Sequence**

Workplace writing often requires evaluation of two or more items on the basis of their similarities or differences.

The ski industry's quest for a binding that ensures good performance as well as safety has led to development of two basic types. Although both bindings improve performance and increase the safety margin, they have different release and retention mechanisms. The first type consists of two units (one at the toe, another at the heel) that are spring-loaded. These units apply their retention forces directly to the boot sole. Thus the friction of boot against ski allows for the kind of ankle movement needed at high speeds over rough terrain, without causing the boot to release. In contrast, the second type has one spring-loaded unit at either the toe or the heel. From this unit a boot plate travels the length of the boot to a fixed receptacle on its opposite end. With this plate binding, the boot has no part in release or retention. Instead, retention force is applied directly to the boot plate, providing more stability for the recreational skier, but allowing for less ankle and boot movement before releasing. Overall, the double-unit binding performs better in racing, but the plate binding is safer.

For comparing and contrasting more specific data on these bindings, two lists would be most effective.

The Salomon 555 offers the following features:

1. upward release at the heel and lateral release at the toe (thus eliminating 80 percent of leg injuries)
2. lateral antishock capacity of 15 millimeters, with the highest available return-to-center force
3. two methods of reentry to the binding: for hard and deep-powder conditions
4. five adjustments
5. (and so on)

The Americana offers these features:

1. upward release at the toe as well as upward and lateral release at the heel
2. lateral antishock capacity of 30 millimeters, with moderate return-to-center force
3. two methods of reentry to the binding
4. two adjustments, one for boot length and another for comprehensive adjustment for all angles of release and elasticity
5. (and so on)

Instead of this block structure (in which one binding is discussed and then the other), the writer might have chosen a point-by-point structure (in which points common to both items, such as "Reentry Methods" are listed together). The point-by-point comparison works best in feasibility and

recommendation reports because it offers readers a meaningful comparison between common points.

## CHUNKING

Each of the organizing techniques discussed in this chapter is a way of *chunking* information: breaking the message down into discrete, digestible units, based on the users' needs and the document's purpose. Well-chunked material generally is easier to follow and more visually appealing.

Chunking enables us to show which pieces of information belong together and how the various pieces are connected (Horn 187). For instance, the opening page of Chapter 7 divides the research process into two chunks:

- Procedural Stages
- Inquiry Stages

Each of these units then divides into smaller, somewhat parallel chunks:

- Procedural Stages
  - Searching for Information
  - Recording Your Findings
  - Documenting Your Sources
  - Writing the Report
- Inquiry Stages
  - Asking the Right Questions
  - Exploring a Balance of Views
  - Achieving Adequate Depth in Your Search
  - Evaluating Your Findings
  - Interpreting Your Findings

If any of these segments become too long to read and understand easily, they might be subdivided again.

**NOTE** *Chunking requires careful decisions about exactly how much is enough and what constitutes sensible proportions among the parts. Don't overdo it by creating such tiny segments that your document ends up looking fragmented and disconnected.*

In addition to chunking information verbally we can chunk it visually:

Notice how the visual display makes relationships immediately apparent. For more on visual design, see Chapter 14.

Finally, we can chunk information by using white space, shading, or other forms of page design:

A well-designed page provides immediate cues about where to look and how to proceed. For more on page design, see Chapter 15.

Chunking is particularly useful in designing hypertext documents and Web pages (Chapter 19).

## CREATING AN OVERVIEW

Once you've settled on a final organization for your document, give readers an immediate preview of its contents by answering their initial questions:

- What is the purpose of this document?
- Why should I read it?
- What information can I expect to find here?

Readers will have additional, more specific questions as well (see page 29), but first they want to know what the document is all about and how it relates to them.

Overviews come in various shapes. The overview for this book, for example, appears on page xxi, under the heading "Organization of Technical Communication, Tenth Edition." An informative abstract of a long document also provides an overview, as on page 649. An overview for an oral presentation appears on page 659 as an introduction to that presentation. Whatever its shape, a good overview gives readers the "big picture" to help them navigate the document and understand its details (Gurak and Lannon 43).

## EXERCISES

1. Locate, copy, and bring to class a paragraph that has the following features:

- an orienting topic sentence
- adequate development
- unity
- coherence
- a recognizable sequence
- appropriate length for its purpose and audience

Be prepared to identify and explain each of these features in a class discussion.

2. For each of the following documents, indicate the most logical sequence. (For example, a description of a proposed computer lab would follow a spatial sequence.)

- a set of instructions for operating a power tool
  - a campaign report describing your progress in political fund-raising
- a report analyzing the weakest parts in a piece of industrial machinery
- a report analyzing the desirability of a proposed oil refinery in your area
- a detailed breakdown of your monthly budget to trim excess spending
- a report investigating the reasons for student apathy on your campus

- ℓ a report evaluating the effects of the ban on DDT in insect control
- ℓ a report on any highly technical subject, written for a general audience
- ℓ a report investigating the success of a no-grade policy at other colleges
- ℓ a proposal for a no-grade policy at your college

### COLLABORATIVE PROJECTS

1. Organize into small groups. Choose *one* of these topics, or one your group settles on, and then brainstorm to develop a formal outline for the body of a report. One representative from your group can write the final draft on the board, for class revision. (In a computer classroom, your group's representative might type revisions of the draft in *Microsoft Word* outline view.)

- ℓ job opportunities in your career field
- ℓ a physical description of the ideal classroom
- ℓ how to organize an effective job search
- ℓ how the quality of your higher educational experience can be improved
- ℓ arguments for and against a formal grading system
- ℓ an argument for an improvement you think this college needs most

2. Assume your group is preparing a report titled "The Negative Effects of Strip Mining on the Cumberland Plateau Region of Kentucky." After brainstorming and researching your subject, you all settle on these four major topics:

- ℓ economic and social effects of strip mining
- ℓ description of the strip-mining process
- ℓ environmental effects of strip mining
- ℓ description of the Cumberland Plateau

Arrange these topics in the most sensible sequence.

When your topics are arranged, assume that subsequent research and further brainstorming produce this list of subtopics:

- ℓ method of strip mining used in the Cumberland Plateau region
- ℓ location of the region
- ℓ permanent land damage
- ℓ water pollution
- ℓ lack of educational progress
- ℓ geological formation of the region
- ℓ open-pit mining
- ℓ unemployment
- ℓ increased erosion
- ℓ auger mining
- ℓ natural resources of the region
- ℓ types of strip mining
- ℓ increased flood hazards
- ℓ depopulation
- ℓ contour mining

Arrange these subtopics (and perhaps some sub-subtopics) under appropriate topic headings. Use decimal notation to create the body of a formal outline. Appoint one group member to present the outline in class.

*Hint:* Assume that your thesis is: “Decades of strip mining (without reclamation) in the Cumberland Plateau have devastated this region’s environment, economy, and social structure.”

**TECHNICAL COMMUNICATION IN THE NEWS**  
**TECHNICAL COMMUNICATION IN THE NEWS**

**TYPICAL QUESTIONS IN ORGANIZING FOR USERS**

- *What relationships do the collected data suggest?*
- *What should I emphasize?*
- *In which sequence will users approach this material?*
- *What belongs where?*
- *What do I say first? Why?*
- *What comes next?*
- *How do I end?*

**12.1**

For more on “chunking” in electronic media visit  
<[www.ablongman.com/lannonweb](http://www.ablongman.com/lannonweb)>

Partition answers these user questions  
Classification answers these user questions

**FIGURE 12.1 Assorted Items Classified by Category**

**FIGURE 12.2 One Item Partitioned into Its Components**

*Source: U.S. Environmental Protection Agency, EMF in Your Environment. Washington, DC: GPO, 1992: 4–5.*

Workplace documents often display this basic shape

The shape of useful writing

A formal

outline using alphanumeric notation

Decimal notation in a technical document

A sentence outline

**FIGURE 12.3 Using a Computer’s Outline Features**

*Source: From Researching Online. 2nd ed. by David Munger, et al., 1988.*

**12.2**

Learn more about

cross-cultural

awareness at

<[www.ablongman.com/lannonweb](http://www.ablongman.com/lannonweb)>

<sup>1</sup>This version is based on a worksheet developed by Professor John S. Harris of Brigham Young University.

**FIGURE 12.4 Report Design Worksheet**

**FIGURE 12.4 Report Design Worksheet (Continued)**



Topic sentences

**FIGURE 12.5 One Module from a Storyboard**

Intro. (topic sent.)

Body (2–6)

Conclusion (7–8)

**ts**

A paragraph without a topic sentence

The missing topic sentence

A topic statement can have two or more sentences



A unified paragraph



An incoherent paragraph

A coherent paragraph



**12.3**

Learn about

associational or

nonlinear structures at



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“What does it look like?”

“How is it done?”

“How did this happen?”

“What will happen if I do this?”

“What should I remember about this?”

“How was the problem solved?”

“How do these items compare?”

A major topic chunked into subtopics

Subtopics chunked into smaller topics

Using visuals for chunking

Using page design for chunking

What readers want to know immediately

For more exercises, visit

[www.ablongman.com/lannon](http://www.ablongman.com/lannon)