



Strategies for Drafting & Revising Academic Writing

The Graduate Writing Center

Overview: This workshop will (re)introduce some basic principles of drafting & revision for a wide variety of academic writing. It will cover general concerns related to audience-centered writing, and it will present practical suggestions for whole-text as well as paragraph- and sentence-level revisions.

Goals

1. To help you develop a greater sensitivity to audience in your writing.
2. To help you develop sustainable, audience-centered revision techniques.
3. To help you develop collaborative revision practices and ethics.

The Graduate Writing Center

Relatively little individual consulting is available during these writing workshops because of their size and time constraints. However, the Graduate Writing Center, located in 111-L Kern Building, provides free, one-on-one consultations for graduate students working on any kind of writing project—from seminar papers to presentations to articles to dissertations. Scheduling an appointment with the Graduate Writing Center is an excellent way to follow up on the practical information you receive during the workshops.

To learn more about the Graduate Writing Center, visit the Center's website at <http://www.psu.edu/dept/cew/GWC.shtml>. We now have an online schedule for making appointments: <https://secure.gradsch.psu.edu/wccal/studentview.cfm>. Appointment times often fill quickly, so plan to make your appointment in advance.

General Advice on Drafting & Revising

Writing a First Draft

- Set intermediate or small goals. Don't try to do it all in one day.
- Write daily. Write at the same time of day if that helps.
- Become familiar with the conventions and jargon that are relevant to your writing project.
 - Read examples of the genre you're working with.
 - Read writing by your editor/advisor.
- Write an outline or use other kinds of idea generation (see Appendices A and B).
- Don't expect a perfect piece of writing. A rough draft is supposed to be rough!
- Write what you can. Save any problems for later. Leave a space or a mark (like an asterisk *). Write a brief note to yourself about what you need to do in the middle of the text.
- Write in a natural style. Don't try to sound sophisticated or look for the most formal word.
- Write the introduction last. Sometimes starting with the methods section can get you started.

Writing Additional Drafts

- Take a break (preferably a long one, at least overnight) between drafting and returning to revise.
- Print a copy to read that has at least 1-inch margins and is at least double spaced.
- Read your draft aloud, and mark places that don't "sound right." (If your native language is not English, you may find it helpful to ask a native speaker to listen.)
- Ask at least one other person to read your draft (maybe two, depending on your purpose and audience).
- In general, work from higher-level concerns (organization, paragraphs, sentence clarity, conciseness) to lower-level concerns (word choice, punctuation).
- Find and evaluate your thesis. Does it clearly present the main point of your paper?
- Write an abstract and compare it with your text.
- Write a "scratch outline" that covers only the main points. Number the points, place them in the most logical order, and compare them to your text.
- OR consider **post-outlining** your draft.
 - Use different-colored pens/pencils to mark (1) your claims, assertions, observations and (2) support for your claims.
- Write the function of each paragraph in the margin (i.e. how it contributes to your overall paper). If a paragraph does not have a clear function, delete it or make its connection more clear.
- Check for topic sentences. If you don't have them, add them. Check to see that everything in a paragraph relates to the topic. If not, delete or create a new paragraph. Then, compare your topic sentences. Do your topics jump around? If yes, rearrange. Do your topics build the subpoints you want to address?
- Keep a record of consistent problems.
- **Don't** rely on computer-based spell or grammar check software—use a find/search utility (in Word, Edit: Find) to look for problems you have recorded, yourself. Compile these problems as part of your **revision routine**.
- Especially if time is short, concentrate time-intensive revising and editing on sections most likely to be read.

Exercise 1: Revision Examples for Very Different Audiences

The following excerpts are about the same topic. However, they appeared in publications with very different audiences:

- *The Journal of the American Chemical Society*, a leading professional journal for chemists
- *Chemical and Engineering News*, a journal that reaches a broad base of scientists and engineers
- *Science News*, a widely available magazine read by well-educated laypersons who are curious about current scientific developments
- *The Chronicle of Higher Education*, a weekly newspaper for university administrators and faculty
- *The New York Times*, a national newspaper in the United States

Which excerpt is from which publication? How do you know? Note a few specific reasons.

1. Each light-sensitive cell of the human eye responds to a particular wavelength of light. Some sense red, some green, and others blue. Yet the same chemical component is involved in detecting each hue. A molecule called 11-*cis*-retinal absorbs light in every receptor cell, but the large protein molecule to which the retinal is bound determines what wavelength of light it best absorbs. Now Koji Nakanishi of Columbia University and Barry Honig of the University of Illinois reported just how the protein influences retinal's light absorption. Precisely located negative charges, probably on the amino acids of the proteins, are responsible for color discrimination.

2. Working with highly sensitive chemicals in a red-lit laboratory at near-freezing temperatures scientists at Columbia University have performed experiments enabling them to answer a hundred-year old question about color vision.

Their new understanding of normal color perception may also point the way to future practical applications in the treatment of color blindness.

Prof. Koji Nakanishi and his collaborators have demonstrated how a single substance, called retinal, can be responsible for perception of all four types of color messages: red, green, blue, and black and white.

3. The chromophoric unit of visual pigments is known to consist of 11-*cis*-retinal covalently bound in the form of a protonated Schiff base to the ϵ amino group of a lysine in the protein opsin [1]. Protonated Schiff bases of retinal absorb at ~ 440 nm in polar solvents while various salts formed in nonpolar solvents absorb at somewhat longer wavelengths (~ 440 -180 nm) [2]. The visual pigment bovine rhodopsin has an absorption maximum of ~ 500 nm while other 11-*cis*-retinal-based visual pigments have maxima as far to the red as 580 nm. The mechanism through which the protein shifts the absorption maximum of the chromophore from its solution value to wavelengths ranging from 440 to 580 nm has been a question of major interest. In this communication we present the first experimentally based model which accounts for the absorption properties of a specific pigment, bovine rhodopsin.
4. A single molecule, that by itself has sensitivity to ultraviolet light, serves the eye by providing sensitivity to the broad spectrum of visible light. The way that the molecule, 11-*cis*-retinal, presents the brain with a rainbow instead of mere shadowy images now has yielded to precise chemical explanation.

The effort to develop that explanation “took many years” and involved about a dozen scientists, principal among them organic chemist Koji Nakanishi of Columbia University in New York City and biophysicist Barry Honig now at the University of Illinois Urbana-Champaign. The project has depended on the synthesis of a family of highly unstable compounds closely related to 11-*cis*-retinal and subsequent analysis showing how that one compound can serve several biochemical masters to give broad spectrum visual perceptions.

5. How and why human beings, monkeys, freshwater fish, and a few other animals see colors has been explained for the first time by Koji Nakanishi, an organic chemist at Columbia University.

For years, scientists have known that the body gets “11-*cis*-retinal,” a light-absorbing molecule that governs perception of color, from fish and dark green vegetables that contain vitamin A. Once absorbed into the body, the vitamin-A-derivative travels to the eye’s retina, where it binds with one of four “visual proteins,” known more commonly as pigments, three of which are involved in color vision.

Questions About Audience

Revision is largely the process through which you shift from writing centered on **you** to writing centered on **your audience**.

Good writing, particularly in Western academic contexts, means writing that is reader-centered (i.e. reader-friendly), where the author has clearly considered the needs and expectations of readers and constructed their text in ways that readers can easily follow.

Some questions to consider when writing:

- Who are my readers?
- Why are readers going to read my writing? What will they expect?
- What do I want readers to know or do after reading my work, and how should I make that clear to them?
- How will readers' characteristics, such as those below, influence their attitudes toward my topic?
 - Age or gender
 - Occupation/position in a professional community
 - Investment in/prior work in my topic
 - Social or economic role
 - Economic or educational background
 - Cultural or ethnic background
 - Moral, political, or religious beliefs
 - Hobbies or activities
- What do readers already know and not know about my topic? How much do I have to tell them?
- If my topic involves specialized language to which my reader would be an "outsider," how much of that language should I use and define?
- What ideas, arguments, or information might surprise readers? Excite them? Offend them? How should I handle these points?
- What misconceptions might readers have of my topic and/or my approach to it? How can I dispel these misconceptions?
- What is my relationship to my readers? How formal or informal will they expect me to be? What role should I play, and what roles do I want my readers to play?
- What will readers do with my writing? Will they read every word or scan for key information? Will they only closely read the introduction and conclusion and skim the rest? How can I persuade them to read through the document the way I want them to?

Revising Paragraphs

Generally, effective paragraphs in academic writing exhibit three characteristics:

1. They are **well-developed**, which means **either** that they contain a sufficient amount of information to support the main claim (“topic sentence”) of the paragraph **or** that they provide enough of a visual break to call attention to themselves (as in the case of a paragraph that, on its own, states a research hypothesis at the conclusion of an introduction).
2. They are **unified**, which means that they are largely centered on one topic.
3. They are **coherent**, which means that the ideas presented in the paragraphs flow from one to another in a recognizably organized way.

Strategies for Improving Unity:

As you revise your writing and check your paragraphs for unity, use the following strategies:

- **Eliminate** information that does not clearly relate to the main idea.
- If the relationship between the main idea and other details in the paragraph is unclear, **add** a phrase or sentence to make their relevance clear.
- If more than one major idea appears in a paragraph, **separate** the ideas and develop them in different paragraphs.
- If you want to convey more than one idea in a single paragraph, **rewrite** your **topic sentence** so that it includes both ideas and establishes a relationship between them.

Strategies for Improving Coherence:

Of these three concerns, coherence usually produces the most problems for readers and writers. To understand how to revise your paragraphs (and sentences) for coherence, first understand that coherence results from one or more of the following:

- Moving from **“old”** (familiar) information to **“new”** information.
- Using **“stock” transitional phrases** (“however,” “therefore,” “in addition,” “on the other hand”) that signal to readers a shift in topic or emphasis (see Appendix C).
- Using **pronouns** to refer back to previously introduced information and/or the use of **recycling**, or the repetition of key words or phrases.
- Starting sentences with **short, easily understood phrases**.

These coherence devices help writers honor the implicit contract they make with their readers not to provide new information that does not connect with previous (“given”) information.

Example:

The following example paragraph exhibits some coherence problems that the revision addresses:

Original. Soils represent major sinks for metals like cadmium that are released into the environment. Soil does not have an infinite capacity to absorb metal contaminants, and when this capacity is exhausted, environmental consequences are incurred. Contamination of soils by cadmium and other heavy metals has become a global concern in recent years because of the increasing demands of society for food production, waste disposal, and a healthier environment. The main causes of cadmium contamination in soils are amendment materials (e.g., municipal waste sludge) and fallout from nonferrous metal production and power plants.

Revision. Such sources as mines, smelters, power plants, and municipal waste treatment facilities release metals into the environment. These heavy metals, especially cadmium, then find their way into the soil. The soil does not have an infinite capacity to absorb these metals. Instead, unabsorbed metals move through the soil into the groundwater or are extracted by crops that take the contamination into the food chain.

In the revision, the links in the chain are underlined. The beginning of each new sentence follows up familiar information, and the end introduces new information that is then recycled. Sentences that did not relate directly to the topic (the process of metal absorption by soil) have been removed.

Exercise 2: Revising Paragraphs

Revise the following paragraph, as necessary. Some tips: for each sentence, identify the character and the action. Start each sentence with a short, easy-to-read phrase that connects the new information in the sentence with the old information from the previous sentence. Use transitions as necessary.

The power to create and communicate a new message to fit a new experience is not a competence animals have in their natural states. Their genetic code limits the number and kind of messages that they can communicate. Information about distance, direction, source, and richness of pollen in flowers constitutes the only information that can be communicated by bees, for example. A limited repertoire of messages delivered in the same way, for generation after generation, is characteristic of animals of the same species, in all significant respects.¹

¹ Exercise borrowed from Joseph Williams, *Style: Ten Lessons in Clarity and Grace*.

Revising Sentences

Effective sentences emphasize key information and present similar ideas in similar grammatical forms.

Hierarchy

Use **subordination** to indicate that you want your reader to focus on one idea in a sentence that is more important than another or (especially for technical writing) that you want to demonstrate a clear cause-and-effect relationship.

Common subordinating conjunctions: after, although, as, as if, because, before, even if, even though, if, if only, rather than, since, that, though, unless, until, when, where, whereas, wherever, whether, which, while

Examples:

- Although production costs have declined, *they are still high*.
- Although production costs are high, *they have declined*.
- Costs, *which include labor and facilities*, are difficult to control.
- *Because soils and rainfall vary*, the soil mixture in individual fields must be monitored.

Be careful, however, that you connect the subordinated/modifying element to the rest of the sentence in such a way that you're clear about what the element is modifying!

Example:

After reaching northern Alaska or the Arctic Islands, breeding occurs in the lowlands. (Where is the subject that this phrase is supposed to modify?)

Revised: *After reaching northern Alaska or the Arctic Islands*, the **swans** breed in the lowlands.

Parallelism

Be sure that the grammatical structure of your sentences reflects the conceptual structure you have in mind; use parallel structures for phrases and items in a list.

Example:

The valving improvements we seek will increase reliability, accessibility, and maintenance and allow application to all sizes of valves. (This sentence is confusing because it suggests that maintenance will increase along with reliability and accessibility!)

Revised: The valving improvements we seek will **increase** reliability and accessibility, **decrease** maintenance, and **allow** application to all sizes of valves. (Parallel verbs are in bold).

Improving Word Choice and Conciseness

Often, relatively “empty” words and phrases creep into academic writing. Writers usually include them because they have seen them so often in other writing or because they have heard them used in conversations. Because space is often at a premium in many writing tasks, it’s a good idea to review your writing for instances of these empty constructions.

Empty Words

- all things considered
- as far as I’m concerned
- for all intents and purposes
- for the most part
- in a manner of speaking
- in my opinion
- case
- element
- factor
- field
- kind
- manner
- last, but not least
- more or less
- area
- aspect
- nature
- situation

Unnecessary Repetition

- circle around
- consensus of opinion
- continue on
- cooperate together
- final competition
- basic essentials
- puzzling in nature
- repeat again
- end result
- revert back
- frank and honest exchange
- surrounding circumstances
- square in shape
- the future to come
- stubborn in nature

Passive Voice

Passive voice happens when the object of a sentence becomes the subject, and some form of the verb “to be” replaces an active verb. (NB: Although passive voice may be necessary in some cases for stylistic reasons, such as emphasis or flow, it is generally wise to check your writing for unnecessary passive constructions).

Passive: The tree was hit by the car.

Active: The car hit the tree.

Nominalizations

Nominalizations transform verbs (and other parts of speech) into nouns and often displace the character (the person performing the action) as the subject of the sentence.

Example: The author’s **analysis** of our data omits any **citation** of sources that would provide **support** for his **criticism** of our **argument**.

Here, nominalizations are in bold. Notice that the main character has been removed from the sentence: it is the analysis, not the author, that is the subject of the sentence.

Revised: When the author analyzed our data, he did not cite any sources that would support his criticism of our argument.

To avoid “wordy” prose, try to identify and eliminate empty words and unnecessary repetition. In addition, try circling forms of the verb “to be” to check those sentences for passive voice and nominalizations, which also rob sentences of concise action. Revise these sentences by making the character (the thing or person performing the action) the subject of the sentence, and replacing “to be” with an active verb that more accurately describes the action taking place.

Practice Example:

As far as I am concerned, because of the fact that a situation of discrimination continues to exist in the field of medicine, women have not at the present time achieved equality with men.

Revised: Because of continuing gender discrimination in medicine, women have yet to achieve equality with men.

Exercise 3: Revising Sentences

Revise the following sentences as necessary. Try one or more of the following: 1) Identify empty words and unnecessary repetition. 2) Circle forms of the verb “to be” and check for passive voice and nominalizations. 3) Use transitions, subordination and parallel structures where appropriate.

1. The intention of the company was to expand its workforce. A proposal was also made to diversify the backgrounds and abilities of employees.
2. Education is controversial these days, with rising costs and constant complaints about its inadequacies. But the value of schooling should not be obscured by the controversy. The best means of economic achievement, despite its shortcomings, is education.
3. In Japan, rice farmers use irrigation water contaminated with cadmium from mining operations, and the farmers show severe symptoms of cadmium poisoning.
4. For all intents and purposes, decisions in regard to administration of medication despite in ability of an irrational patient appearing in Trauma Centers to provide legal consent rest with the attending physician alone.

Revising (and Getting Revision Help) Collaboratively

Readers

- Ask the writer who the intended audience is. If you can place yourself in the role of an audience member, do. If not, make sure the writer understands that.
- Attempt to identify a central claim/thesis.
- Ask yourself if you can give a very brief summary of what the writing is about.
- Do paragraphs create a chain? Or are they isolated links?
 - Are there transition words that signal shifts in topic?
 - Is old and new information balanced and manipulated?
- If you are helping the writer post-outline, do you notice much more of one color than another?
- At the sentence level, do you notice things that consistently confuse you?
- Be specific with criticism and praise.
- Emphasize the effect of the writing on you as the reader instead of gauging the writing by external standards.

Writers

- Ask for clarification where necessary.
- Accept comments as directed to your writing, not to you.
- Be open to suggestions, but realize that you don't have to accept them.
- Note any consistent difficulties your readers have and add them to your revision routine.

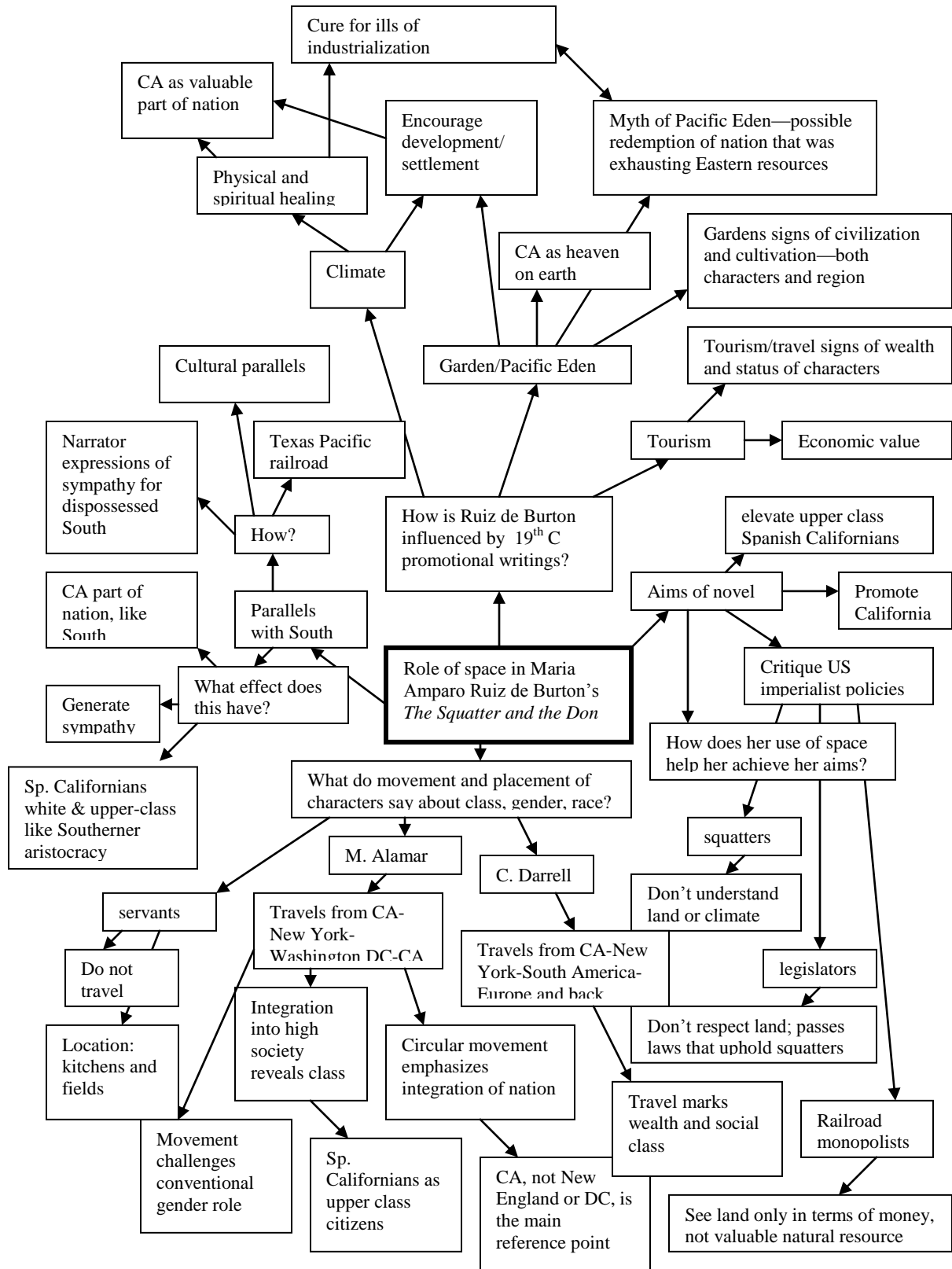
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Suggested Books on Academic Writing

- Becker, H. S. *Writing for Social Scientists: How to Start and Finish Your Thesis, Book or Article*. Chicago: University of Chicago Press, 1986.
- Boice, R. *Professors as Writers: A Self-Help Guide to Productive Writing*. Stillwater, OK: New Forums Press, 1990.
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- Elbow, Peter. *Writing With Power*. 2nd. New York: Oxford University Press, 1998.
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APPENDIX A: CLUSTER DIAGRAM



APPENDIX B: OUTLINE

Making Space for Californios: María Amparo Ruiz de Burton's *The Squatter and the Don* (tentative title)

1. Introduction
 - a. Brief review of literature
 - b. Need for scholarly study:
 - i. Rhetorical scholars often overlook how space can be used as a rhetorical strategy
 - ii. Role of space often overlooked in scholarship on this novel
 - c. Thesis: To elevate the social position of Californios (upper-class Spanish Californians) in America in the late nineteenth-century, Ruiz de Burton borrows from promotional literature about California to make the region and the people attractive to Anglo-Americans; she draws geographic parallels to align California with the South (and make the region comprehensible as part of a diverse national union); and she uses the placement and movement of characters in specific landscapes to argue for particular class and racial hierarchies.
2. Background to author and work
3. Using promotional literature
 - a. Rhetoric of healthy climate demonstrates importance of CA to economic and spiritual prosperity of nation
 - b. Popular depictions of California as a fruitful garden/Pacific Eden demonstrate that, although part of the "Wild West," California is actually a civilized and cultivated region (and so are her Spanish inhabitants)
 - c. Using familiar tourist rhetoric helps readers imagine California as part of a national space
4. Geographic Parallels with the South
 - a. Texas-Pacific railroad provides physical and symbolic link between regions that helps challenge idea of New England as national center
 - b. Cultural similarities of region helps readers extend sympathy for defeated Southerners to defeated Californians
 - c. Parallels also cast Spanish Californians as upper-class and white, like the Southern aristocracy
5. Social Place and Movement
 - a. Location indicates social class
 - i. Servants located in kitchens and fields (sites of labor)
 - ii. Upper-class (white) Californians located indoors, esp. in parlors (sites of leisure)
 - b. Movement reinforces class hierarchy
 - i. Servants place-bound
 - ii. Upper class Alamares and Clarence Darrell travel widely. This travel functions to:
 1. show acceptance into high society
 2. demonstrate national citizenship
 3. link regions together as part of national whole
6. Conclusion
 - a. Review main arguments
 - b. Discuss implications/significance

For more information on writing outlines and to view sample outlines, see the following online resources:

<http://www.indiana.edu/~wts/pamphlets/outlines.shtml>

<http://web.psych.washington.edu/writingcenter/writingguides/pdf/outline.pdf>

http://go.hrw.com/hrw.nd/gohrw_rls1/pKeywordResults?btm%20graph

http://www.scholars.psu.edu/thesis/writing_map.htm

Transitional Expressions (Appendix C)

Transitional expressions within and between paragraphs and sentences can make connections that make it much easier for your reader to read along with the flow of your writing. You may use transitional expressions for several reasons, some of which are listed below, along with some appropriate expressions. Using these expressions wisely will help you develop your writing style. However, overusing them can be distracting.

To add or show sequence: again, also, and, and then, besides, equally important, finally, first, further, furthermore, in addition, in the first place, last, moreover, next, second, still, too

To compare: also, in the same way, likewise, similarly

To concede: granted, naturally, of course

To contrast/make an exception: although, and yet, but, but at the same time, despite, even so, even though, for all that, however, in contrast, in spite of, nevertheless, notwithstanding, on the contrary, on the other hand, regardless, still, though, yet

To give examples: an illustration of, for example, for instance, specifically, to illustrate

To intensify: after all, even, indeed, in fact, it is true, of course, that is, truly

To indicate place: above, adjacent to, below, elsewhere, farther on, here, near, nearby, on the other side, opposite to, there, to the east, to the left

To indicate time: after a while, afterward, as long as, as soon as, at last, at length, at that time, before, earlier, formerly, immediately, in the meantime, in the past, lately, later, meanwhile, now, presently, shortly, simultaneously, since, so far, soon, subsequently, then, thereafter, until now, when

To provide additional support or evidence: additionally, again, also, and, as well, besides, equally important, further, furthermore, in addition, moreover

To repeat, summarize, or conclude: all in all, altogether, finally, in brief, in conclusion, in other words, in particular, in short, in simpler terms, in summary, in the final analysis, on the whole, that is, to put it differently, to summarize

To show cause and effect: accordingly, as a result, because, consequently, for this purpose, hence, otherwise, since, then, therefore, thereupon, thus, to this end, with this object in mind

Example: Medical science has thus succeeded in identifying the hundreds of viruses that can cause the common cold. **It** has also discovered the most effective means of prevention. One person transmits the cold viruses to another most often by hand. For instance, an infected person covers his mouth to cough. **He** then picks up the telephone. Half an hour later, **his** daughter picks up the same telephone. Immediately afterward, **she** rubs her eyes. Within a few days, **she**, too, has a cold. And thus **it** spreads. To avoid colds, therefore, people should wash their hands often and keep their hands away from their faces. (Transitional phrases are underlined; pronouns are in bold).