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The Rhetoric of the Comment Box: Editorial Queries as Arguments and Relationships in Engineering Proposals

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THE RHETORIC OF THE COMMENT BOX: EDITORIAL QUERIES AS ARGUMENTS AND RELATIONSHIPS IN ENGINEERING PROPOSALS

A Thesis
Presented to
the Graduate School of
Clemson University

In Partial Fulfillment
of the Requirements for the Degree
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by
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Accepted by:
Dr. Steven B. Katz, Committee Chair
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Abstract

In today’s academic engineering environments, securing funding has become a volatile process, requiring the hard work of and collaboration between many different people. Technical editors are one of these important forces in the proposal writing process, as they help engineer writers to develop their proposals and persuade reviewers of the value of their research. However, to date, there have been very few studies on how editors convince engineer writers to accept their proposed revisions. To fill this gap in the literature, this thesis offers an in-depth style analysis of six proposals in order to determine what technical editors do when they edit engineering proposals and how they create working relationships with engineers. In particular, I will concentrate on how two editors in Clemson University’s College of Engineering and Science argue for changes and create stylistic relationships—and the interrelationship between argument and style—by querying writers through the Comment function in Microsoft Word. The two analyses that I will complete are based on the theories of Stephen Toulmin et al. on argumentation and Walker Gibson on style. Toulmin et al.’s theory will enable me to analyze how the editors argue for revisionary changes in each of the technical proposals, whereas Gibson’s theory will enable me to determine how editors create relationships with authors through the language they use in the comment box. The findings revealed from this thesis provide practical knowledge to technical editing students and to working technical editors.
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Chapter 1

The Importance of Arguing and Developing Relationships in Editing

With a decrease in state funding and more demands from university administrators, finding external funding continues to be a major issue for academic engineering programs. As a result, proposals are one of the main forms of writing in which engineers must engage, and technical editors frequently play a central role in this writing process. According to Greg Myers, proposals are “the most obviously rhetorical writing scientists do” (220) as they must convince a skeptical committee that the engineers’ research is worthwhile, that they are capable of completing the research, and that their preliminary findings are accurate. However, as Myers suggests, proposal writing is paradoxal: the proposal itself (with its questions about background, goals, and budget) and the scientific report within the proposal (with its passivity and impersonality) are not ideal conditions for rhetorical appeals. As such, the purpose of technical editors in these writing processes entails helping engineer writers to persuade reviewers of the value of their research.

To date, there have been very few studies on how editors convince engineer writers to accept their proposed revisions. Therefore, this thesis offers an in-depth style analysis of six proposals in order to determine what technical editors do when they edit engineering proposals and how they create working relationships with engineers. In particular, I will concentrate on how two editors in Clemson’s College of Engineering and Science argue for changes and create stylistic relationships—and the interrelationship
between argument and style—by querying writers through the Comment function in Microsoft Word. The two analyses that I will complete are based on the theories of Stephen Toulmin et al. on argumentation and Walker Gibson on style. Toulmin et al.’s theory will enable me to analyze how the editors argue for revisionary changes in each of the technical proposals, whereas Gibson’s theory will enable me to determine how editors create relationships with authors through the language they use in the comment box. Both of these approaches and the connections between them will be discussed in detail in the chapters dedicated to these analyses (i.e., Chapters 3 and 4, respectively).

**Research Importance**

As a technical editing student, I have had many professors try to explain how to develop successful, productive relationships with technical writers in which each party has their needs fulfilled: the editor is able to share his/her expertise to improve the writer’s document, and the writer submits a more effective and strengthened text. While my professors and the textbooks they used tried very hard to explain how to build successful author/editor relationships, the suggestions they gave were always anecdotal or hypothetical; they never provided a theory-based methodology to help students understand the basics behind developing such rapport.

In addition, these professors and textbooks also tried to describe how to create non-threatening, yet constructive comments that provide editorial suggestions without offending writers. Again, these suggestions were based solely on editors’ and writers’ experiences with the editorial process but never on objective theoretical research. While
both the teachers and textbooks provide examples of effective queries, I was always unsure as to their ultimate effectiveness for one reason or another. How could I be certain that implementing these experience-based, yet un-researched, suggestions would enable me to develop good relationships with writers or write comments in which I would be able to argue my position effectively without making the author uncomfortable or angry?

The result of my educational experience is this research: I want to provide other editing students and even working editors who have faced a similar dilemma with a theory-based evaluation of how two technical editors argue for changes and develop relationships through the comment box. I hope that the results from this research will take some of the guess work out of creating effective comments, especially for students trying to learn the basics behind the complex nature of technical editing. Even though technical editors generally learn to fine-tune their skills with time and experience, I hope the findings from this research will not only provide editing students with a firmer foundation from which they can build their editorial expertise, but more specifically, I hope it will provide insight into the connection between editor’s arguments and the language they use.

Selected Materials

The six proposals I chose to analyze for this thesis were written by faculty from Clemson University’s College of Engineering and Science (CoES). These proposals
were edited by two CoES editors: one from the Bioengineering Department, Elizabeth Mae, and the other from the CoES Proposal Development Office, James Benson¹.

Both Mae and Benson provided me with several proposals that they had edited in the recent past from which I chose three per editor for my final analyses. These six proposals were chosen for three primary reasons: 1) they were written by native English speakers, 2) they were written for major engineering funding agencies², and 3) they had enough comments to provide an accurate analysis. I chose to focus on native English speakers’ proposals under the supposition that the editors’ comments for native speakers would focus more on each proposal’s content and rhetorical appeals and less so on grammar and word choice issues common to non-native speakers’ proposals. In addition, I felt it was important to choose proposals from the major funding agencies that support most of Clemson’s engineering research because the proposals written to these agencies are the documents that the CoES editors revise most frequently. It is likely that engineering faculty from programs similar to Clemson’s also write proposals for these agencies and that the technical editors working for these other programs will edit such documents as well. Accordingly, choosing to analyze proposals from these particular institutions will make the results of this thesis more generalizable and thus more applicable to a wider range of technical editors. Finally, it was necessary for me to select proposals with enough comments to provide reliable results, as I knew that the more

¹ The two editors’ names were changed to protect their identities.
² Defense Advanced Research Projects Agency (DARPA), the National Institute of Health (NIH), the National Science Foundation (NSF), and the American Heart Association (AHA).
comments I was able to analyze, the more fortified and generalizable my results would be.

For both the Toulmin et al. and Gibson analyses, I will concentrate solely on the comments the editors made for each proposal. While every change an editor makes is an argument of one kind of another, editorial changes within the text primarily amend grammatical or mechanical errors, the basis for which can easily be defended by consulting a grammar handbook. The comments, however, provide the editors’ arguments for changes that generally cannot be explained through established grammatical rules or usage handbooks; rather, the editors’ comments consider revisions that they made based on their accumulated experience of what does and does not work in proposal writing. Thus, how they make their arguments in the hopes of convincing the engineer to accept these non-rule-based suggestions and how they support these arguments could reveal very interesting characteristics of both effective and ineffective editorial argument strategies that technical editors should implement or avoid when editing proposals, specifically, or technical documents, in general.

In addition, analyzing the editors’ comments as arguments opens up the opportunity for undertaking a Gibson analysis, which will reveal not only how the editor’s personality is reflected through his/her writing but also how style itself becomes an essential part of an editor’s argument. It would be impossible to complete such an analysis based on the in-text revisions, as the editors do not explain the revisions they make in text; consequently, analyzing the language style they use to develop a relationship with the author would also be impossible. However, with the
implementation of Gibson’s theory, as will be seen in Chapter 4, I expect to discover the characteristics of the language that is most effective in developing editorial relationships, especially in cases in which the editor and author have minimal face-to-face or oral contact outside of the proposal comments.

Organization

This thesis is organized as follows: Chapter 2 is a literature review of the current research relating to engineering writing, proposal development, and technical editing, all of which inform the Gibson and Toulmin et al. analyses and results. Chapters 3 and 4 present a description of the Toulmin et al. and Gibson analyses, respectively, the results of the twelve analyses completed for this thesis (six for Toulmin et al. and six for Gibson), and how the findings are interrelated to form the editors’ arguments. Finally, Chapter 5 provides the implications of these findings for editors and for students studying editing, the limitations of the current study, and suggestions for further research in this area. Appendix A includes the comments from the six proposals. Because of the proprietary nature of the information, the full-length proposals could not be included; however, the comments in Appendix A are word-for-word transcriptions of those in the original proposals. Appendix B is a compilation of the Toulmin et al. analysis charts for each comment, and Appendix C includes the Gibson tables of style results for each proposal.
Chapter 2

Querying the Literature

This chapter provides an overview of the current literature on engineering writing, engineering proposal writing, and technical editing. The information from this chapter provides the basis for this thesis and a foundation for both the Toulmin et al. and Gibson analyses.

Background: Engineering Writing

According to Dorothy Winsor, a leading researcher in the field of engineering writing, engineers, especially those new to the field, have a rather negative view of writing: they tend to view writing as a necessary part of their jobs, but they do not believe it is a part of engineering in general (“An Engineer’s” 276). Because most engineers focus on research and spend most of their time collecting data and developing technologies, “writing seems to be a rather uninteresting act of translating knowledge they have encoded in another form” (Winsor, “An Engineer’s” 276), such as in graphs, drawings, and calculations. Unlike most individuals in the humanities, engineers and other technical workers generally see writing as an objective process that accurately describes reality, while ignoring the possibility that their writing influences knowledge. They tend to believe that the objects and data collected from measurements speak for themselves and can then be translated to the physical world through writing (Winsor, “Engineering” 60). For engineers, “engineering writing may be said to embody objects
in the verbal form, and engineers depend a great deal on that writing for designing, negotiating, modifying, testing, and producing objects” (Ding). In addition to viewing writing as tedious, many engineers also view themselves as being poor writers, believing they frequently make mechanical errors and use ineloquent language.

However, as engineers become more indoctrinated into the field, they realize the importance of writing in engineering and usually view it less negatively. According to a pilot study done by Arfken and Henry, as engineer writers become more educated and experienced, they tend to enjoy writing more and worry less about errors. In addition, they gain confidence in their writing abilities and in the documents they produce. This lack of writing anxiety and increased confidence is also apparent in Selzer’s case study, in which the engineer studied was self-assured in his ability to produce accurate, organized documents that met his audience’s needs.

Because engineers view their writing as describing the natural world, they believe that persuasion is unnecessary and has the potential to skew data (Winsor, Writing 69). In fact, Winsor found that many engineers even attach a negative connotation to the term “persuasion,” preferring to say that they are being “convincing” rather than “persuasive” (Writing 3). In addition, engineers generally believe that if someone is an “expert” in his/her field, he/she has the authority to tell others what to believe about their expertise without needing to persuade them.

In terms of language usage, engineers value conciseness and simplicity. In most engineers’ opinion, the goal of writing is to “transfer” knowledge accurately from one form (data) to another (document), and they do this by speaking in the established forms
and tongues of engineering (Winsor, “Engineering” 67). Ineloquence and the avoidance of “flowery” language marks this style, which engineers believe makes them come across as sounding serious and reliable. Therefore, “the ‘boring’ nature of ‘technical documents’ is functional and actually increases the chance of readers getting what they need…[without being] distracted by extraneous information” (Winsor, Writing 90).

However, for most people, even engineers themselves, reading technical documents written in this way is often difficult. Therefore, technical editors frequently alter such texts to increase their readability and comprehension.

Finally, when engaged in the writing process, most engineers use conventional methods in terms of prewriting, writing, and rewriting. Selzer believes that engineers’ writing processes are more linear than recursive. In linear writing, once an author has written text, he/she hardly reconsiders or revises it thereafter. Yet, Roundy and Mair believe that engineers, like most writers, have more recursive types of writing processes in which they do reconsider text after it has been written and frequently add and delete information as they write. Regardless of this discrepancy, most researchers agree that engineers engage in three major and distinct writing phases: prewriting/planning and arranging, writing, and rewriting/revision (Selzer, Roundy and Mair). However, unlike more typical writers who approach each stage more equally, engineers tend to place “special emphasis on planning and arranging at the expense of revision” (Selzer 179). Selzer found that planning and arranging accounted for about 80 percent of engineers total composing process, whereas writing took about 15 percent, and revision accounted
for less than 5 percent. Roundy and Mair also confirmed these findings and noted that during the revision stage, engineers do not revise much past basic mechanical issues.

**Background: Engineering Proposal Writing**

In her article, “Finding Funding: Writing Winning Proposal for Research Funds,” Laurel Grove states the following about the importance of proposal writing:

Even though thousands of organizations fund research, there are even more researchers who need funds. What is more, not even Bill Gates could afford to pay for every research project that researchers would like to undertake. Funds are always limited. Because no researcher has enough funds to do all the work he or she might like, researchers compete for the limited funds available. And since no sponsor has enough money to pay for all potentially valuable research, agencies must find ways to select among potential recipients of their funds.

Grove goes on to explain that such agencies select recipients for their funds depending almost exclusively on the form and content of the researcher’s proposal and how well the writer conveys the value of and the plan for his/her work.

While the importance of proposal writing is widely accepted, most literature on proposal writing (including Grove’s piece) is genre oriented and describes how to create successful proposals, while very little research has actually examined the writing and revising process of creating a proposal. While such how-to guides are valuable in
helping writers to shape their proposals and understand the review process, research that goes beyond these formulaic rules could help both writers and editors create more fundable proposals. There is, however, more research on editing that could inform the proposal writing process, which will be discussed in the next section.

Greg Myers is one of the few researchers who has accepted the challenge of studying proposals from a more analytical standpoint (though not those of engineers). In his article “The Social Construction of Two Biologists’ Proposals,” Myers undertakes an in-depth analysis on two biologists’ grant proposals. In this case study, Myers chose one proposal from each biologist, collected all of their major drafts for each document, and examined the comments and revisions from reviewers. By the end of his study, Myers had three readings of the proposals: the writers’, the readers’, and his own. He found that “the writing of proposals, which takes up such a large proportion of the active researcher’s time, is part of the consensus-building process essential to the development of scientific knowledge” (220). This consensus, Myers suggests, evolves out of the scientist’s ability to create a credible persona by enmeshing his/her research with established literature within the field. In the end, as Grove suggests and Myers’s study supports, the decision to fund a research project is not only based on the quality of a proposal but also on “the reputation of the investigator” (Grove, 2004).

Myers’ research adds to our understanding of the rhetorical nature of proposals; however, his analyses do not go beyond the scientists’ writing and the reviewers’ reactions to that writing. He does not examine the relationships between the reviewers and the writers but merely looks at how the writers implement the reviewers’ suggestions.
and address their concerns. In addition, Myers does not examine the reviewers’ 
comments in terms of their arguments or persuasiveness; rather, he examines how the 
biologists respond to those comments and merely takes them at face value without 
considering if their claims are substantiated or warranted or if they are effective in 
convincing the writers to heed their propositions. (Myers, like the authors themselves. 
assumes authority on part of the reviewers, which we cannot assume on part of the editors 
of engineering proposals because, as we have seen, engineers take their authority for 
granted by virtue of their subject matter expertise.)

Other research has looked at the difficulties associated with proposal writing, 
especially in terms of collaboration and, thus, focuses on the need for writers to be 
effective communicators. In his article “The Rhetorical Nature of Research Funding,” 
Brad Mehlenbacher found that most researchers believe that proposal writing requires 
“the ability to achieve group consensus, effectively manage large documents with 
multiple authors, and resolve conflicts between the proposal writers and the intended 
audience” (159). However, research suggests that similar to their limited ability to use 
rhetoric effectively, engineers tend to lack adequate communication skills when it comes 
to writing collaboratively. For example, Mehlenbacher illustrates how collaborators can 
sometimes seem like “competitors,” vying for his/her own interests while neglecting the 
group and document as a whole (159).

In the end, all of the research on proposal writing focuses on an issue that Grove 
describes especially well: proposal reviewers ultimately hold “expectations that clear 
thinking is linked to clear communication, and that someone who truly understands his or
her subject can explain it to someone else” (“Finding Funding”). Thus, it is the technical editor’s job in the proposal writing process to facilitate this communication, and it will be interesting to examine how that is done through the comment box.

**Background: Technical Editors**

When reviewing proposals, referees have very high and specific expectations. They value clean copies without mistakes, omitted words, confusing language, etc., and strict adherence to their specified format, but more importantly, they expect sound arguments with convincing data and logical presentation. Distracting errors and formatting issues can lead to a reviewer rejecting the proposal before giving it a thorough read through, whereas, weak arguments will fail to convince referees of the importance of the research or the engineer’s ability to conduct the research (Anderson and Garg). Because there is a disconnect between what successful proposals require and engineers’ limited rhetorical knowledge, technical editors are often the solution for helping engineers produce fundable proposals.

There are two main types of revising strategies that editors use when reviewing a document: mechanical editing and comprehensive editing. According to Laurel Grove, mechanical editing is rule-oriented editing, in which the editor reads through a document line by line, word by word, ensuring that it adheres to a company’s style guide. Mechanical editing focuses on correcting grammar, punctuation, spelling, sentence structure, word usage, formatting, and number usage, while the unity of the document’s content and the audience’s needs are ignored. Comprehensive editing, on the other hand,
is audience-oriented and more rhetorically based. During comprehensive editing, the editor takes on the reader’s perspective, ensuring that the audience will understand the ideas and/or arguments easily. According to Grove, during a comprehensive edit, editors will read the document at least twice: first to study the outline and structure and second to analyze the discussion’s completeness, technical discrepancies, argument soundness, definition clarity, proper tone, and the like. Additionally, during the comprehensive editing stage, editors often query the author and comment on specific sections to ensure clarity, avoid audience confusion, raise questions, and give explanations. However, during these readings, the editor essentially ignores mechanics and format.

While editors clearly understand the importance of distinguishing between and choosing from mechanical and comprehensive editing, many engineer writers do not fully understand the necessity for editors to go beyond mechanical editing to revise more substantial issues. As such, many engineers see editors as mere grammar fixers who do not have the technical knowledge to revise content material and expect editors to ignore how they approach persuading their reviewers. Such writers expect technical editors to fix punctuation and grammar errors, while leaving a document’s content and language untouched. Yet, what most engineer writers do not realize is that “technical editing involves a wide-ranging, deeply probing, thorough review of a technical manuscript and is performed for the purpose of improving the communication of scientific and engineering concepts” (Van Buren and Buehler 5).

Most of the current research on technical editing involves developing best practices for effectively revising technical documents, essentially creating how-to editing
models. In 1980, technical editors Robert Van Buren and Mary Fran Buehler developed “The Levels of Edit” for the Jet Propulsion Lab at the California Institute of Technology. This document is often deemed the cornerstone of technical editing, as it provides editors with an orderly approach to revising any technical document depending on its audience, purpose, and time/money constraints. The levels-of-edit approach involves nine categories: *coordination* (monitoring a document’s production), *policy* (ensuring a document adheres to company policy), *integrity* (verifying that parts of a publication match), *screening* (correcting aspects of the text and artwork, such as misspellings and illegibility), *copy clarification* (neatening the document for typesetters and graphics personal), *format* (ensuring that the manuscript adheres to format specifications), *mechanical style* (conforming text and images to a particular style—abbreviations, spelling, numbers, etc.), *language* (reviewing how ideas are expressed regardless of format), and *substantive* (reviewing the document for meaningful content). These nine categories are combined into five levels of editing from which an editor can choose depending on the particular document.

While the levels of edit enable editors to provide thorough revisions, they are usually more detailed than most editors need. As a result, several researchers and editors have adapted the initial levels of edit, combining them to form smaller, more clearly defined categories. For example, Prono et al. reduced the initial levels of edit into three major categories (the proofreading edit, the grammar edit, and the full edit) based on “the cumulative nature of the levels” (3). Corbin et al. also created three editing categories similar to the levels of edit—comprehensive editing, usability editing, and copy editing;
however, these editing guides’ categories focus on content first and mechanics last regardless of what constraints are present.

In addition to describing how to approach technical documents, many of these guidebooks discuss how editors can collaborate with writers effectively in hopes of helping them prevent adversarial relationships with writers. Numerous editing guidelines warn editors of the strenuous working relationships that often develop between technical editors and writers, apparently due to writers’ fragility and editors’ super egos. As Heather Crognale explains in her article “Long-Distance Editing,” “In information development circles, one of the more precarious relationships is that between the editor and writer. Too often, writers take edits personally and view editing comments as direct attacks on their abilities, or editors begin to feel smug after finding many errors in a document” (17). Along those same lines, Carolyn Rude asserts that author/editor relationships fail for three reasons: “poor writing and editing, poor management, and oversized egos” (36). However, problems can also arise when editors and writers have different expectations regarding what the editing process entails (Bernhardt and Hart). For example, an author may believe that his/her document only needs a mere grammar check, while the editor may believe that same document needs to be completely reorganized. These conflicting views will inevitably lead to stress in the author/editor relationship if not handled appropriately.

Specifically considering the sciences and engineering, the tension between editors and authors may arise because scientists “have a huge investment in [their written work], and because the language of science loses its value if it is not 100 percent technically
accurate, they are often loath to change even a single word or comma” (Firestone, 11). Thus, technical editors working with subject matter experts (SMEs) in the engineering field may face more problems when trying to convince writers to alter their documents, as those writers feel that revising their text will inadvertently revise their meaning.

Because of the apparent tension in many author/editor relationships, numerous editing guidelines provide suggestions on how to develop and maintain successful relationships. Many of these guidelines suggest that the editor become the writer’s ally in order to “mediate the writer-reader relationship” (Dragga and Gong 9) and create the most effective document possible. In the end, as most of these articles suggest, the clarity and communicative effectiveness of the final document is the ultimate goal. Thus, overcoming the inherent tension in their relationship will ultimately benefit both writers and editors: the editor “must make it abundantly clear that he and the writer share a common goal; they are in no sense adversaries” (Bennett 9).

One common method cited in the literature for helping editors create and maintain successful working relationships with authors is the construction of comments that are both beneficial for and polite to the author. In years past, editors and writers generally had to meet to discuss documents and potential revisions; however, today “the diffusion of electronic editing in technical communication is continuing, driven by the increasing use of telecommuting, dispersed work teams, single-sourcing, Web-based documentation, and ever-compressed product development cycles” (Dayton). As a result of the increased use of electronic editing, using the track-changes and commenting functions (such as those in Microsoft Word) on electronic versions of technical documents has become
standard in the technical editing field. Nevertheless, using the comment function is by no means a substitution for face-to-face communication, as it limits editors’ ability to elaborate on their thoughts and suggestions and may lead to author misinterpretation. However, in today’s fast-paced electronic world, the comment feature allows editors to discuss their revisionary choices with authors when other communication means are unfeasible.

Since editors are generally unable to have face-to-face discussions with writers, “carefully phrased comments are all the more important to convey not only useful feedback but also an encouraging attitude” (Doumont 39). However, because “carefully phrased comments” is a rather abstract concept, many editing guidelines suggest different approaches for creating effective editorial comments. Some researchers believe that politeness is the key to successful comments and author/editor relationships (Crognale, Hart, Doumont, and Mackiewicz and Riley). For example, Hart suggests that editors “remember to use the word please often, and to phrase [their] comments as suggestions rather than demands” (27), whereas Doumont suggests using gentle feedback and acknowledging the positive aspects of the writer’s text as forms of politeness.

While helpful, the concept of being polite is still rather vague. To mitigate the ambiguity intrinsic in politeness, Mackiewicz and Riley outline a set of linguistic strategies that editors can use when constructing comments that balance directness/indirectness with communicating a need so that the editor can create the most polite comments possible. According to Mackiewicz and Riley, depending on what message the editor needs to convey and how he/she needs to do so, editors can choose
from seven linguistic strategies; however, editors should generally choose from the five most polite comments (from most polite to less polite): opinion (e.g., “I would include a table here); derivable-active (e.g., You should probably include a table here); bald-on-record (e.g., Add a table here. It will make the information easier to read); preparatory-active (You could add a table here. That’s just a suggestion.); and interrogative (Could you add a table here?). However, the authors advise that editors avoid using passive voice and hints when making suggestions.

Forming comments in the form of questions is another method often cited in the literature as a way to develop and maintain successful author/editor relationships. According to Draga and Gong, “Questioning the author is an effective and judicious manner of calling the writer’s attention to problematic passages” (32), while enabling them to come across as suggestive, rather than demanding. Phrasing comments as questions illustrates that editors acknowledge the SME’s superior technical knowledge about the text but also allows editors to point out potentially problematic areas.

Regardless of how editors approach writing comments to their writers, the literature suggests that authors want to know why editors make the changes they do, and they often want to see such explanations in the comment boxes. According to Elaine R. Firestone, “authors respect and trust editors who have [communication] knowledge and who can explain the reasoning behind their changes” (12). Thus, “the best comments identify a problem, diagnose why it is a problem, and offer a solution” (Bernhardt 463). This three-step concept of a comment satisfies both the editor’s need to notify the author of a potential problem and the writer’s desire to know why the editor was compelled to
change his/her text, ultimately leading to a more communicative and effective working relationship and a better document in the end.

**Research Questions**

After consulting the current literature on engineering writing, proposal writing, and technical editing, I believe that there is a major gap in our understanding of editors’ work, especially in terms of how they communicate with writers through comments. As such, my research questions for this thesis are as follows:

*How do technical editors develop relationships with engineering proposal writers and argue for important revisions through the language in their comment boxes?*

*How do the argument and style work together on a structural level to convince engineer authors of the validity and necessity of changes?*

As technical writing becomes more computer-based with editors and writers working in different physical areas, this issue will gain more importance, as comment boxes become the main means of communication between editor and writer.
Chapter 3

Arguing for Change

On a fundamental level, the revisions and comments technical editors suggest to writers are essentially arguments. I was thus able to perform an analysis on the editor’s comments on the six engineering proposals based on Toulmin et al.’s model in An Introduction to Reasoning. The Toulmin et al. method is particularly suited for understanding editorial arguments, as it provides a systematic way to break down the editors’ comments into their argumentative parts and examine their effectiveness. In this model, any argument can be broken down into six constituent parts: claims, grounds, warrants, backing, modals, and rebuttals. In general terms, the claim is a statement the writer is asking another person to accept; the ground is the basic premise on which the claim is built; the warrant is the link between the ground and the claim that provides rational support for the claim; backing includes the general body of knowledge accumulated over time on which a warrant is founded; modals are qualifiers that establish the strength of the connection between the ground and the claim; and the rebuttal is the writer’s anticipation and refutation of a counter argument. Figure 1 is an example of a Toulmin et al. argument chart with each box representing its respective argumentative component and a description of that component:
Figure 1. The Component Parts of a Toulmin et al. Argument

The arguments in the editors’ comment boxes follow this basic outline with a few specific characteristics: the ground always relates to something problematic or questionable in the author’s text; the claim is always the editors’ revisionary suggestion; and the warrant establishes the change’s necessity.

Interestingly, the claims, warrants, backing, modals, and rebuttals of each argument may or may not be present in the actual argument but may merely be implied.

In opposition to strictly formal, syllogistic approaches to the study of argumentation, Toulmin et al. developed a way to chart more informal arguments in terms of these various parts in order to determine how writers convince (or fail to convince) their audience of their argument’s validity. Toulmin et al.’s analysis method also enables one
to analyze the parts of informal arguments (with missing argumentative components) and how they work, in addition to more formal arguments that include all of the constituent argument components. The goal in this argumentative situation, as Toulmin et al. puts it, is “directed toward a consensus, or rational agreement, between the parties concerned” (317). In this thesis, “the parties concerned” are comprised of the editors and the engineer writers with whom they work.

Using Toulmin et al.’s charting technique, I graphed each argument that the two editors from the College of Engineering and Science (Benson and Mae) presented in Microsoft Words’ “Track Changes” function. While the editors made numerous separate comments on each proposal, several of the comments contained more than one argument. For example, Comment 18 of the Mae.NIH.1 proposal has more than one argument: “Don’t use a colon separate a verb from its complement, esp. when the bullets make it very clear that this is a list. I changed the bullets to numbers to avoid the redundancy of bullets and numbered aims.” “Don’t use a colon…” and “I changed the…” begin two separate arguments: the first argument calls for a revision of colon usage based on a grammatical warrant, and the second argument calls for the author to use bullets to list his/her information. Below are the two separate Toulmin et al. graphs for each argument:

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1 A list of these comments can be found in Appendix B. Comments are labeled as with the editor’s name followed by the type of proposal (e.g., Comment 1 from the Benson.DARPA proposal refers to the first comment in the DARPA proposal edited by Benson).
Thus, when necessary, I had to break down comments into several arguments, after which I was able to chart each argument the editors made throughout the six given proposals. These Toulmin et al. analysis charts revealed several interesting facts as to

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2 In each chart, blue boxes represent parts of the argument that were stated, and the white boxes with broken lines represent parts of the arguments that were unstated.
what types of arguments the editors made to the engineer writers, what evidence they used to support their arguments, and how they queried the authors when the engineers’ writing was particularly confusing. These charts also revealed several characteristics that could potentially make the editors’ arguments weaker for one reason or another, which, in turn, could have affected the writers’ acceptance of certain revisions.

**Successful Arguments**

According to Stephan Bernhardt, author of “Improving Document Review in Pharmaceutical Companies,” “the best comments identify a problem, diagnose why it is a problem, and offer a solution” (463). Bernhardt’s ideal comment can be understood as a map for the three major component parts of a successful Toulmin et al. argument: the ground identifies the problem and points to the argument’s exigency; the warrant contextualizes the ground and generally describes why it is problematic; and the claim offers the solution the editor believes will ultimately solve the problem. Both Benson and Mae provided these three-part comments in the proposals that were analyzed, which helped the engineering writers identify, justify, and fix problematic parts of their text. For example in Comment 20 of the Mae.NIH.2 proposal, the three parts of her argument are particularly evident:
In this comment, the problem is that the author bolds too many words in the sentence, which makes it difficult to read. This bolding is problematic because “reviewers don’t want to read every word, and any reader with a PhD will not need to read every word.” With the editor’s solution—to unbold certain words in the sentence—“the sentence can be read more easily and quickly.”

Comment 1 of the Benson.CAREER proposal is another query in which all three constituent parts of the argument evident:
In this case, the problem is that the author uses the “e.g. [#]” as the citation method throughout the proposal, which is problematic for the several reasons that the editor points out: it does not follow NIH/NSF standard workbooks’ suggestions, the authors “primary and secondary reviewers will be close enough to [the author’s] work to recognize citations presented as author/year,” and the current citation method forces reviewers to flip back and forth between the proposal and the references. Therefore, the solution to this problem is simply using the author/year citation strategy.
Each of these arguments provides the writer with clear reasoning as to why his/her writing is problematic in certain areas and what he/she needs to do to fix the problem. Also, in such comments, Benson and Mae do as the literature suggests and provide the bases of their suggestions and the importance of incorporating the revisions into the text. As individuals who commonly disbelieve in the social construction of knowledge or in the influence writing can have on meaning, engineers are particularly hesitant to accept changes to their technically sound documents, especially if they cannot discern a good reason for doing so. However, it is probable that writers will accept comments that explicitly state the problem, explain the problem, and provide solutions more readily than comments that omit one or more of these argumentative parts because such comments enable them to improve their writing and understand why they needed to do so in the first place.

While three-part comments like Bernhardt’s are ideal, they are not the norm in editing: more often than not, one of the three constituent parts of a comment’s argument is missing. In the Benson and Mae proposals, warrants were frequently omitted and claims were occasionally omitted. In each of these cases, the editor assumes either knowingly or unknowingly that the writer will have enough writing experience to understand what needs to be changed and/or why it needs to be changed.

In some cases, these assumptions are unproblematic, as the writers are familiar enough with the proposal writing process to understand what needs to be changed and why. For instance, there were several comments in each of the proposals that had the same underlying, yet unstated warrant, for different arguments that most likely conveyed
the reasons why the editors made the changes they did. For example, Comments 4 and 14 in the Mae.AHA proposal and comments 2 and 5 in the Benson.MEM proposal (to name a few) each asked the authors to check the meaning of the revised text in some way to ensure that the editors’ revisions did not change the technical content of the text.

**Mae.AHA A14**

![Toulmin et al. Chart for Comment 14 of the Mae.AHA Proposal](image)

In each of these cases, the underlying, unstated warrant was “Sometimes editors inadvertently make changes that alter the author's meaning.” Although unstated, both the editors and the writers understand that there are times when an editor implements changes in a text that alter its technical meaning. For this reason, the argument for comments like “check the meaning here” is still successful, as both parties understand the importance of checking for potentially changed meaning.

The editors make similar assumptions about other underlying, yet unstated, warrants, such as those related to coherence, overstating claims, and consistency. In each
of the cases, the editors feel that they do not need to state the warrant behind their arguments explicitly because they believe that engineering writers (who have written numerous proposals in the past) will have the required knowledge to understand why the revisions were necessary. That is, the editors assume that the engineering writers will have enough knowledge about proposal writing to understand these particular arguments in the comment boxes without further explanation; the editors’ assumptions are validated if the writers do understand the argument and implement the proper revisions. For this particular thesis, however, there is no way of knowing whether writers implemented the changes or not; nevertheless, it is highly likely that the writers did understand the reason for these particular changes and implemented them without hesitation.

In addition to these unstated warrants, there were also times when the editors did not state a definitive claim as to what they wanted the writer to do to amend a problem. Take, for example, Comment 14 of the Mae.NIH.1 proposal:

Mae.NIH.1 A14

![Toulmin et al. Chart for Comment 14 of the Mae.NIH Proposal](image)

Figure 6. Toulmin et al. Chart for Comment 14 of the Mae.NIH Proposal
In this case, the editor does not overtly state that the author needs to check the image for him/herself or have someone else check it, but it is likely that the author will review the image again after reading this comment to ensure that he/she did not overlook any errors during the initial review process. In this case, Mae assumes that the writer will know enough about the review process to understand that if she did not check the image, it could still potentially contain errors, which could detract from the author’s credibility if left uncorrected. Again, it is probable that the editor’s assumption in this case is correct and that the author will indeed recheck the image.

There are also times when the editor presents whole arguments that are completely implied in the wording of his/her sentence but are left unstated. These implied arguments occur each time the editor asks the author a question. For instance, in Comment 5 of the Benson.MEM proposal, the editor writes: “Check this; the original was unclear. Are first responder and unit the same thing?” Below is the chart for this argument:
Benson revised the author’s original sentence (Ground 2) based on the assumption that
*first responder* and *unit* refer to the same thing; however, because he is not completely
familiar with the engineer’s research, he cannot be certain if the change will alter the
writer’s meaning. Thus, he asks the question “Are first responder and unit the same
thing,” which then becomes a rebuttal because the question has two possible answers, and
thus two possible counter arguments are formed. If the answer to this question is “yes,”
then the author can accept the change; however, if the answer is “no,” then the question
actually becomes a rebuttal to the editor’s change: if “first responder” and “unit” do not
refer to the same thing, then the editor’s change would be erroneous.

Figure 7. Toulmin et al. Chart for Comment 5 of the Benson.MEM Proposal
In this case, the second, unstated argument outlined in this chart (that the editor did not fully understand what the author was trying to say) becomes relevant: “first responder” and “unit” are not the same thing, and the editor did not fully understand what the author wanted to say, so the writer should disregard Benson’s revision. It is unnecessary for the editors to state the arguments related to the questions they introduce because if the answer to the question negates the revisions the editors made, the author simply will not accept those changes. However, these questions do serve the purpose of alerting the writer 1) to editorial changes that possibly changed his/her meaning and 2) to areas in the text that could lead to a reader’s confusion.

**Unsuccessful Arguments**

Most of the time, the editors’ arguments are successful and the writer accepts their revisions even when one or more argumentative components are missing from the comment. However, there are also several reasons why certain editorial arguments have a high potential for failing to convince writers to change their text. The majority of the arguments that have a high potential for failing are characterized by six major features: 1) the editor revises based on an improper identification of the ground; 2) the editor provides a faulty warrant to support his/her argument; 3) the editor provides an unclear warrant to support his/her argument; 4) the editor introduces an error into the text; 5) the editor leaves ambiguity as to what the writer should do; or 6) the editor’s claim does not seem to apply to the text it references. While not all of these features are identified specifically in Toulmin et al.’s theory, they are based on his main principles of what a
successful argument entails and are thus consistent with his ideas of what makes an argument successful or unsuccessful.

**Issue 1**

The first issues that the Toulmin et al. analysis was particularly good at identifying were those relating to the editors’ logic when creating a claim. In particular, there were times when the editor misidentified a ground as being problematic, when in fact nothing in the text was technically or stylistically wrong. Take for example, Comment 10 of the Benson.DARPA proposal:

![Toulmin et al. Chart for Comment 10 of the Benson.DARPA Proposal](image)

Figure 8. Toulmin et al. Chart for Comment 10 of the Benson.DARPA Proposal
In the proposal, the author writes “$S(he)$ can enter false information…,” (emphasis added) which the editor changed to “they can enter false information…” (emphasis added) based on the warrant that “it is best to be gender neutral” in scientific writing. However, the ground for this argument is faulty because writing $s$(he) or he/she are common ways to be gender neutral in writing, as they include both sexes equally just as writing they does. Had the author written, “he can enter false information…” or “she can enter false information,” then the editor’s argument would be valid; however in this case, the writer was gender neutral and the change was unnecessary based on the erroneous identification of a faulty ground.

**Issue 2**

In addition to faulty grounds, there are also several comments containing faulty or unclear warrants throughout the six proposals I analyzed. This issue is particularly interesting, as editors are supposed to be “writing experts” who improve documents based on established (and obviously correct) writing, visual design, format, and graphic design principles. However, there are times when the editors’ warrants for their arguments are counter to formal logic; that is, given the text they reference, these comments do not provide logical reasons as to why the writers’ text is problematic. Comment 19 of the Mae.AHA proposal exemplifies this issue, as the editor provides a warrant that does not logically justify her argument:
Unlike the comment mentioned in the previous example, this comment actually refers to an error in the writer’s text (i.e., the ground is correct), as he/she writes “...conjugates (hydrogels) is preferential because the former...” In this case, the writer wants to use an adjective derived from the root word prefer in order to show that he/she wants to use conjugates over another material. The editor makes the correct revision for this particular error and changes preferential to preferred, but her warrant for doing so—because “preferential means ‘to show preference’”—is not correct. The warrant the editor provides is the definition for an infinitive verb. The problem is that preferential is an adjective; therefore, she needed to provide the definition for an adjective, which, according to Merriam-Webster is “showing preference.”

This brings up the issue of whether or not the author would even notice the subtle difference between these two definitions; however, that is not the point. The point is that the “language expert” provided a faulty warrant behind her revision, which could
ultimately lead to the writer’s confusion. If the engineer happens to be very knowledgeable about grammar and does notice this error, he/she may have a lower opinion of the editor’s work and thus question or even ignore other revisions. As Toulmin et al. suggest, when choosing a warrant, one can only make an informed choice by “going behind the warrant and looking to see on what basis its authority rests” (66). In this particular case, the editor did not take the initiative to look behind the warrant carefully to ensure that its authority could be upheld under close scrutiny. Perhaps providing the definition of both preferential and preferred would have been the best strategy to show the author why his/her original word choice was incorrect and convince him/her of the change’s importance.

In both of the cases related to the editors erroneously identifying improper grounds and providing logically unsound warrants, the flawed support that the editors use to back their argument could ultimately be damaging to their credibility as editors and to the rest of the work they do both with these specific proposal writers and other writers they make work with. As such, it is important for the editors to ensure 1) that they are actually correcting an error in the writer’s text (e.g., as in the Benson.DARPA proposal) and 2) that they provide the correct reason behind why they made a particular change (e.g., as in the Mae.AHA proposal). Thus, it becomes clear that “an important part of sound reasoning therefore consists of ‘critical thinking,’ and this involves being prepared to ask questions about the underlying backing for those ways of thinking and reasoning our culture has drilled into us and normally takes for granted” (Toulmin et al. 67).
Editors need to examine their warrants and grounds carefully to ensure that they are in fact logically valid before arguing for an erroneous or unnecessary revision.

**Issue 3**

An editor’s argument can also become problematic when the warrant justifying his/her claim is unclear or does not seem to make sense given the argument at hand.

Comment 15 of the Mae.NIH.1 proposal exemplifies this issue very well:

**Mae.NIH.1 A15**

![Toulmin et al. Chart for Comment 15 of the Mae.NIH.1 Proposal](image)

Figure 10. Toulmin et al. Chart for Comment 15 of the Mae.NIH.1 Proposal

In this case, the author wrote “The approach is designed as a platform technology based on novel biomaterials developed in the PI’s lab over the last three years.” The editor believes that the author should change *last* to *past* because “’last’ is slightly negative.” However, this warrant may not seem to make sense to some individuals, especially engineers: to the engineer, *last* may not seem to have a negative connotation because the writer is simply referring to the research his/her lab has done for the “past” few years.
However, editors are more attuned to the slight nuances that word choice can have on audience perception, which is probably why Mae suggested this particular change.

Generally speaking, though, engineers are not accustomed to analyzing word choice so deeply and may not understand the impact that one word could have on their reader’s assessment of their writing. Thus, the editor’s suggestion is logical but may be unclear to the engineer writer due to his/her limited knowledge of rhetoric. This point relates to Toulmin et al.’s idea of argument as consensus building: if the editor cannot clearly justify his/her reason for a change, the writer may not be able to understand the revision’s significance, and thus consensus cannot be obtained.

Comment 5 of the Benson.CAREER proposal is another very good example of problematic arguments with unclear warrants:

**Figure 11. Toulmin et al. Chart of Comment 5 of the Benson.CAREER Proposal**
In this case, both of the warrants the editor provides do not quite make sense. First, Benson says that it is “always best to refrain from using ‘if’ usage” because “it conveys doubt that you [the author] can do what you say you’ll do.” Although this may initially seem like the editor misidentified the ground, the editor has identified a problematic issue in the author’s text: by saying “when successful…,” the author gives the impression that there are times when his/her methodology is not successful, which may lead the reviewers to question his/her ability to do the work. Yet, the author never uses the word “if” in the sentence the editor refers to, which makes this line of reasoning confusing because there is the chance that the author will not relate the editor’s comment of “if usage” to this particular comment; thus, it is not unlikely that the author will merely disregard this comment.

In addition to this problematic warrant, the other warrant that the editor provides is confusing as well. Benson mentions that the author should use the word “expected” in the revised version of this sentence because it “always lets reviewers know you plan to succeed but gives you some ‘rhythm’ in case you do not.” While the editor’s change does seem to improve the text, it is still unclear exactly what he means by “rhythm” in this warrant. Perhaps his use of “rhythm” was metaphorical in this case and not based on formal logic. However, because engineers are not adept at identifying the subtleties of language, it is probable that this particular writer will not fully understand the meaning behind this metaphorical language, and if he/she does not fully understand the importance of the author’s justification, he/she may simply ignore the revision. Again, this may not
necessarily be problematic if the author merely accepts the revision; however, if the author does notice these two anomalies in this comment, it may lead him/her to reject the revision and think more negatively about the editor’s work.

Issue 4

While it does not occur very frequently, the next unsuccessful argument that the analyses revealed occurred when the editor actually introduced an error into the writer’s text and argued for that revision based on illogical warrants. For example, Comment 9 in the Mae.NIH.2 proposal introduces an error into the author text:

Figure 12. Toulmin et al. Chart for Comment 9 of the Mae.NIH Proposal

This comment was based on the author writing “Substrates (n=4 / group) were maintained under static conditions for 3 days then transferred to bioreactors...” While this sentence does have an error that needs to be revised (there needs to be some sort of conjunction or punctuation after “days”), the editor’s remedy (her claim) for this error, along with her warrant for doing so, are incorrect. She revises the text based
on the warrant that “There should be a comma between two full sentences.” Firstly, the sentence Mae references is not made up of two full sentences. According to any English grammar book, a full sentence must have a subject and a predicate. While the first part of this sentence is a full sentence, the latter part (“…then transferred to bioreactors and subjected to…”) does not have a subject or a verb.

Second of all, those same English grammar books would state that one should never put a comma between two sentences without a coordinate conjunction. A semicolon would be required in such a case but is irrelevant for this particular sentence because the editor is not dealing with two full sentences. As such, Mae’s revision to the text—“Substrates (n=4 / group) were maintained under static conditions for 3 days, then transferred to bioreactors and subjected to…” (the comma)—merely introduces an error. Rather, to fix this grammatical mistake, the author either needs to write “…were maintained under static conditions for 3 days and were then transferred to bioreactors…” or “…were maintained under static conditions for 3 days; they were then transferred to bioreactors…”

As mentioned before, such problematic arguments will most likely make the editor lose credibility in the engineer writer’s eyes and make him/her less likely to accept other revisions; however, introducing an error into the writer’s document also has the potential to seriously anger a writer, or worse. What would happen if the author accepted the editor’s claim without knowing any better only to have a reviewer discover the error in the proposal review process? Writers send their documents to technical editors for them to eliminate errors and obviously not for them to introduce mistakes. While
everyone makes mistakes, editors need to be particularly careful to ensure that the revisions they make are not erroneous and that the warrants they base their arguments on well founded.

*Issue 5*

Another problematic argument arises when the editor leaves too much ambiguity in his/her claim for the author to understand definitively how the text needs to be changed. One can see this ambiguity in Comment 11 of the Benson.DARPA proposal in which the editor writes “Looks like this sentence detailing a simple approach to [the] key assignment works best as a segeway [sic] into a more sophisticated approach.” This comment hints that something needs to be changed in this section of the writer’s text, but the editor does not clearly identify a problem in the text, nor does he provide any kind of solution. The writer is thus left wondering if the editor was merely making a statement in passing, if he is suggesting that the author could develop a more sophisticated approach, if he believes the editor should reword the statement, or any number of other possibilities.

As Toulmin et al. state, “Often enough, the particular words in which an asserter \((A)\) first presents a claim will not be wholly clear. The chosen words may contain unresolved ambiguities and may lend themselves to alternative interpretations” (31). This ambiguity could arise from the editor’s inability to clearly identify and state the grounds for his claim; that is, he knows that something is wrong but is not sure what exactly and thus cannot convey it in an unambiguous manner. They could also arise if an editor does not understand the writer’s technical content. For example, in the comment above, maybe the editor did not understand the simple approach enough to develop a
more substantial claim. Nevertheless, comments that leave too much ambiguity leave the author with a wide array of possible ways to revise the text but with no clear-cut answer as to what the initial problem was.

Another example of too much editorial ambiguity is present in Comment 38 of the Mae.NIH.2 proposal. In this comment, the editor simply writes “Better coherence.” The ambiguity arises because it is unclear whether the editor means that the text *needs* “better coherence,” or if the writer *has* “better coherence” in this particular section. If the author mistakenly believes that the editor means the former possibility, then he/she may make unnecessary revisions and waste time. However, if the writer mistakenly believes that the editor means the latter possibility, then he/she may not make the necessary changes to make the text more comprehensible. Either way, this ambiguity could cause issues for the author later during the proposal review process.

It should be noted, that these ambiguous comments are slightly less serious than the other unsuccessful arguments mentioned in this section mainly because if the author ever comes across one of these comments, their reaction is most likely going to be one of confusion. On realizing that they are unsure about how their text needs to be change, writers are most likely going to contact their editor and ask for clarification. However, given the time-sensitive nature of proposal writing, many engineer writers are on tight deadlines and only have time to send a draft for one editorial review. Thus, when writers do not have a great deal of time or the editor is out of the office, these ambiguous comments could frustrate authors tremendously because they are left without solutions. In addition, if the editor makes several ambiguous comments in one document, it is likely
that the writer will become exceedingly frustrated and react negatively toward the editor.
As a result, editors need to review their comments to ensure that they are as clear as possible regarding what is wrong with the writer’s text and what the writer needs to do to fix the issue without allowing ambiguity to interfere with the argument at hand.

Issue 6

The final type of problematic argument that these analyses revealed occurred when the editor’s claim did not seem to apply to the ground it referenced. For instance, in Comment 4 of the Mae.NIH.2 proposal, the editor states that the author should “check period usage with citations.” The sentence this particular comment was attached to read “A bioreactor capable of cyclic strain and vibration was developed (Figure 1).” There was not one citation in or around this particular sentence or in Figure 1 for that matter. While Mae’s comment seems important, as a proposal’s format is one of the first things a reviewer looks at, it is unclear exactly what the editor was doing or referencing when she wrote this comment. Perhaps it was just an error, or perhaps she merely wrote the comment there because there was not a better place for her to place it. Regardless, it is confusing, and it is likely that the author will not implement the proper change as a result.

For this reason, it is important for editors to make sure that their comments and claims are relevant to the text they reference. If, for some reason, the editor decides to add a comment that does directly refer to the text it references, then he/she needs to explain that comment and its purpose in more detail.
Arguments as Consensus

If, as Toulmin et al. suggest, making an argument is “directed toward a consensus, or rational agreement, between the parties concerned” (317), then editors need to provide logical, well-founded arguments in order to reach this consensus with objective-minded engineers. As was discussed in the literature review, engineer writers do not generally acknowledge that language has a direct impact on the meaning of their text; they believe that their experimental data and descriptions are strong enough on their own to show the importance of their work, regardless of how the presentation of that data is undertaken. As such, the arguments editors make to improve the rhetorical standing and persuasiveness of a proposal need to be developed in a way that appeals to the objective, logical mindset these engineer writers have when developing their text. Thus, arguments that are based on misidentified grounds, that are justified by illogical warrants, that leave too much ambiguity in their claims, or that do not seem to apply to the text at hand are likely to fail as engineers want logical explanations for the changes editors make to their text.

Based on Toulmin et al.’s theory, the arguments from the previous sections have clear-cut reasons as to why they fail; however, another type of argument that would seem to fail given engineers’ logical mindset includes arguments with warrants based solely on the editor’s opinion. Yet, as we will see, opinion-based arguments are quite successful and are very much a part of this consensus-making process between engineer writers and editors. Take for example Comment 5 of the Mae. AHA proposal:
In this case, the method the writer uses to list the components of his/her list is perfectly acceptable in scholarly writing, and neither the proposal guidelines nor any established writing authority advises not to list information in this way. Rather, Mae bases her revision on her opinion that the author should “use Arabic numerals and only one parenthesis” for the list because “numbered text is easier for the eye to find when, for example, a reviewer scans the page.” This warrant is not wrong by any means and is logically valid in its reasoning; however, the original method the author used to list his/her series is logically acceptable as well. Thus, the editor’s change is based on her opinion and practical experience from her many years of editing that one way of listing a series is better than another. In cases such as these, Toulmin et al.’s idea of backing comes into play. Although the backing for this argument is left unstated, Mae develops her warrant on an established body of editorial and writing knowledge that she has accumulated throughout her career as both a student and a professional. Most engineer
writers are not aware of this knowledge, or backing, for the writing/editorial process, so it may be difficult at times for editors to translate the foundation for some of their warrants.

One would assume that because engineers generally accept arguments only when their claims are supported by established warrants, such opinion-based warrants, with their subjectivity and the editor’s personal influence, would ultimately fail to convince them to accept editorial arguments. However, counter to intuition, these opinion-based arguments are very likely to succeed most of the time. How could this be? As we will see in the next chapter, the language style editors use when crafting their comments contributes directly to this consensus building process in author/editor relationships and engineer writers’ acceptance of both theory- and opinion-based arguments.
The second analysis I preformed on these six proposals was based on Walker Gibson’s essay “Tough, Sweet, and Stuffy,” which examines how authors’ choices in language create the relationships they have with their audience when there are no other cues for doing so. That is, Gibson’s analysis reveals how authors create relationships with their readers when no other verbal or face-to-face communication is possible. Given the current surge of electronic editing, such an analysis could provide us with useful insight into how editors create working relationships with writers through the comment box when no other means of communication are available.

The Toulmin et al. analyses provided insight into how editors create arguments to justify their revisions; the Gibson analyses will add to those findings by identifying what language is best suited to create author/editor relationships in which editors can effectively persuade engineer writers to accept their revisionary comments. The Gibson analysis reveals this language dimension of the author/editor relationship because it allows us to examine how editors’ vocabulary, syntactical structures, and grammatical usage influence the messages they wish to convey and how readers may potentially interpret those messages. According to Gibson,

> When a writer selects a style, however unconsciously, and so presents himself to a reader, he chooses certain words and not others, and he prefers certain organizations of words to other possible
organisms…every choice he makes is significant in dramatizing a personality or voice, with a particular center of concern and a particular relation to the person he is addressing. (x)

Gibson includes an appendix in his essay called *A Model T Style Machine*, which is derived from traditional grammar and modern linguistics to determine the tone of a written passage. Gibson’s method includes analyzing sixteen grammatical variables broken down into six categories: word size, substantives, verbs, modifiers, subordination, and other effects on tone. Using Gibson’s *Style Machine*, I analyzed the editors’ word choices and syntactical structures to examine how the language they use helps them to develop successful working relationships with engineer writers.

**Common Gibson Grammatical Terms**

Before a review of my Gibson analyses can be done, it is important to understand exactly what the characteristics of Tough, Sweet, and Stuffy writers are. However, before delving into the characteristics of the Tough, Sweet, and Stuffy talkers, it is important to become familiar with the specific grammatical terms that Gibson uses in his *Style Machine* (Table 1). While this is not a comprehensive list of all the terms Gibson uses, these are the terms relevant to my analyses.
Table 1. Common Grammatical Terms in Gibson’s *Style Machine*

<table>
<thead>
<tr>
<th>Grammatical Term</th>
<th>Definition</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Finite Verb</td>
<td>A verb that shows tense, person, or singular plural; a verb that has a subject and shows tense</td>
<td>She <em>goes</em> to the movies. The boy <em>owned</em> a bike.</td>
</tr>
<tr>
<td>“To be” Form of Finite Verb</td>
<td>The infinitive “to be” is inflected to show tense, person, or singular plural; the infinitive “to be” has subject and shows tense</td>
<td>The cats <em>are</em> sick. That <em>is</em> not the book I wanted.</td>
</tr>
<tr>
<td>Passive Voice</td>
<td>The object of a sentence becomes the subject</td>
<td>The cake was eaten by the children.</td>
</tr>
<tr>
<td>True Adjectives</td>
<td>Adjectives that can be put into the superlative form</td>
<td>Good, better, best</td>
</tr>
<tr>
<td>Noun Adjuncts</td>
<td>One or more nouns are used to modify another noun. Used to coin new terms based on existing vocabulary.</td>
<td>Chicken soup</td>
</tr>
<tr>
<td>Subordinate Clause</td>
<td>An incomplete sentence attached to an independent clause that has both a subject and a verb and begins with a subordinate conjunction or a relative pronoun.</td>
<td>She is driving the car <em>that her parents bought for her a year ago</em>. The dog does not like him <em>because he took away her bone</em>.</td>
</tr>
<tr>
<td>Sentence Fragments</td>
<td>A sentence that is missing its subject, verb, or both</td>
<td>Because I said so!</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Whereas, he likes her.</td>
</tr>
</tbody>
</table>

**Tough, Sweet, and Stuffy Talkers**

With an understanding of the common Gibson terms, one can examine the particular characteristics of the Tough, Sweet, and Stuffy talkers:

Tough talkers’ language creates a close, yet hard, intimacy with their reader in which the writer assumes that his/her readers will be very knowledgeable about the subject being discussed. Tough talkers create this sense of intimacy by using a high proportion of monosyllable words, personal pronouns, subjects referring to people, finite verbs,
minimal subordination, and informal speech features, such as contractions and sentence fragments, all of which are common to colloquial language. However, the intimacy that the Tough talker creates is centered on his/her own feelings and attitudes, with little consideration given to the reader, which Gibson refers to as “I-Talk.” This characteristic of Tough talk is a result of the writer’s choice to use first-person pronouns (e.g., “I”), which tend to reflect only the writers needs, thoughts, and feelings.

In addition, the Tough talkers’ lack of modification and his/her heavy use of monosyllable words are also a result of his/her self-centeredness, as the writer assumes without hesitation that the reader will know exactly what he/she is talking about without needing to explain the information further with descriptions or verbosity. This leads to the Tough talkers “this-is-that” way of speaking (characterized by its use of “to be” forms of finite verbs), which allows the writer to enforce his/her knowledge as fact without providing any further details to the reader (Gibson 113-133). As my analyses will reveal, these characteristics combine to create author/editor relationships in which the editor can effectively convey his/her knowledge and argue for revisions in a manner that engineer writers will respect.

The language Sweet talkers employ also creates a close intimacy with their audience; however, unlike Tough talkers, the intimacy Sweet talkers create is explicitly considerate of the reader’s needs and feelings. Like Tough talkers, Sweet talkers also create a sense of intimacy through their use of everyday language characteristics: the use of monosyllable words, personal pronouns, subjects referring to people, finite verbs, minimal subordination, and informal speech features, such as contractions and sentence
fragments. However, the Sweet talker goes a step beyond the Tough talker in terms of his/her use of colloquial language and actively tries to mimic speech patterns; according to Gibson, Sweet talkers achieve this speech-like quality in their writing by using parenthesis, italics, dashes, question marks, and exclamation marks, each of which adds emphasis and feeling to writing that traditional, more formal writing conventions hinder.

Also unlike the Tough talker, the Sweet talker is overtly concerned about the reader’s needs, attitudes, and desires but much less so on his/her own. The Sweet talker creates this audience-centered intimacy by using the second-person pronoun “you,” which allows him/her to engage the reader directly in the text (Gibson calls this “You-Talk”). In addition, Sweet talkers go out of their way to make sure their reader knows what they are talking about and, therefore, use heavy modification when constructing their prose; Sweet talkers do not assume that their reader will know what they are talking about, and they want to make sure that they clearly describe it for their audience (Gibson 113-133). My Gibson analyses relating to the Sweet talker will reveal how the two CoES editors effectively use certain characteristics of Sweet talk to demonstrate that they value the engineer writers’ concerns and opinions and to convey their own opinions in a non-threatening manner.

Unlike both the Tough and Sweet talkers, Stuffy talkers do not want to create a sense of intimacy with their readers; rather they take on an air of “no-personal-responsibility” (121), as Gibson states, and maintain a distance between themselves and the reader. Stuffy talk is characteristic of formal academic writing and of organizational writing, both of which want to come across as being official and objective. As such,
Stuffy talkers tend to use many polysyllable words, few personal pronouns, subjects referring to neuter objects, and passive voice in order to develop and maintain a professional voice characterized by a “legalistic” repetition of words and by language lacking personal influence. This legalistic, professional tone is enhanced by the Stuffy talker’s use of noun adjuncts, which “roll off the stuffy tongue in great official bundles” (126), again making the Stuffy talker’s prose more formal and less colloquial.

In addition, Stuffy talkers want their prose to be clear at all times but do not rely on their reader’s ability to understand their meaning, almost as if he/she does not “trust his reader to make the proper reference” (119). As a result, Stuffy talkers employ heavy modification and subordination to eliminate any ambiguity and to ensure that their reader understands exactly what they are trying to convey (Gibson 113-133). Even though Benson and Mae work in a very professional environment and actually edit documents that Gibson would classify as being Stuffy, the language they employ to create relationships with engineer writers has very few occurrences of Stuffy language.

Table 2. Characteristics of Gibson’s Categories of Styles

<table>
<thead>
<tr>
<th>Style</th>
<th>Characteristics of Style</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Tough</strong></td>
<td>- Has hard, curt, self-absorbed manner</td>
</tr>
<tr>
<td></td>
<td>- Concerned for his/her own needs</td>
</tr>
<tr>
<td></td>
<td>- Assumes intimacy and common knowledge with readers—beyond explanation and politeness</td>
</tr>
<tr>
<td></td>
<td>- Aware of his/her limitations</td>
</tr>
<tr>
<td></td>
<td>- Uses short sentences, word repetition, simple grammatical structures, and colloquial</td>
</tr>
<tr>
<td></td>
<td>speech patterns</td>
</tr>
<tr>
<td></td>
<td>- Avoids modification and description as writer assumes reader will know what is being</td>
</tr>
<tr>
<td></td>
<td>talked about without further assistance</td>
</tr>
</tbody>
</table>
After completing the analyses, I found that the editors’ primary style in these documents was Sweet (see Figure 1). The Sweet style dominated in four out of the six proposals; the Sweet and Tough style were equally present in the Benson.MEM proposal; and the Tough style dominated in the Mae.NIH.2 proposal. Even though the Sweet style dominated throughout the editors’ comments, the Tough style was also strong throughout the queries. Thus, it appears that these two stylistic voices work in conjunction with one another to create the editors’ personality through their words and ultimately help them to convince the engineer writers to accept the arguments they make. However, there are also characteristics of both the Tough and Sweet styles that work separately to create successful author/editor relationships. Table 2 summarizes which style characteristics were dominant in these six proposals.
The Tough Sweet Talker

According to Gibson, both the Tough and the Sweet talkers’ styles are marked by informal, colloquial language that creates a sense of intimacy between the author and reader (71). Because both of these styles take on a more informal communication approach, several of the comments’ characteristics could be characterized as both Sweet and Tough talk: i.e., the editor’s use of pronouns, subjects referring to people, finite
verbs, clauses, contractions, and fragments. Each of these five characteristics directly contributes to the intimate, conversation-like style of the editors’ comments.

Firstly, the editors’ high frequency of first- and second-person pronouns actively engages the author’s attention because the editor is essentially asking him/her to participate in the conversation. For example, in Comment 3¹ of the Benson.DARPA proposal, the editor’s engaging use of pronouns is particularly evident: “Do you mean simple or do you mean not previously subjected to experiment. If simple, [I]² suggest a change since this word is usually associated with people, emotions, etc.” From the second-person pronoun usage in this comment, the writer knows that he/she is personally being addressed by the editor and that he believes the wording he/she uses in the sentence is unclear. Additionally, the editor’s use of the first-person pronoun “I” allows him to establish himself in the conversation. It also engages the writer because it directly follows second-person pronoun usage and creates a “you-and-I” type of conversation³ in which both parties are important; however, the editor’s use of “I” in this situation also enables him to take a dominant position in the conversation, as he is suggesting what he, the technical editor and language expert, believes is the best revision for this particular text. This particular comment and those similar to it can be characterized as both Tough and Sweet because the use of personal pronouns is common of both styles’ conversation-

¹ These comments can be found in Appendix A.
² The “I” was only implied in this case. As will be discussed below, editors commonly use fragments when writing comments in order to save time and effort. Thus, their elimination of first- and second-person pronouns is not uncommon. However, the first- and second-person pronouns are clearly implied: in this case, for example, the verb is conjugated in the first-person singular case, and since the editor wrote the comment, it is obvious that he is referring to himself.
³ As opposed to an “I-Talk” conversation in which the speaker is only concerned with his/her needs, or a “You-Talk” conversation in which the speaker is only concerned about the other person (Gibson 119).
like tone. However, there are differences between first- and second-person pronoun usage that differentiate the Tough style from the Sweet style, which will be discussed shortly.

Another example of how editors engage writers is through the use of “we.” The use of “we” clearly incorporates the author’s opinion and makes him/her feel actively included in the editorial conversation. Take, for instance, the first question in Comment 16 of the Mae.NIH.1 proposal in which the editor asks “Do we need this definition?” By using “we,” the editor seems to be trying to include herself in the decision-making process for this particular writing choice, while actively speaking with the author, not to override the writer’s ultimate authority but to communicate her opinion about this particular definition. If an editor thinks that an author may find a particular comment to be rude or unnecessary, he/she could use “we” in the comment to mediate any tension in the relationships and to convey his/her suggestions. While Mae was writing this comment, she may have felt that the author would believe the definition of RNAi to be an obvious need, so saying “do you think…” would be ineffective, since the writer wrote it in the first place and so at least might have meant it, if it is not a mistake: obviously if the author included the definition in the original draft, he/she thought it was important. By including herself in the comment, however, the editor becomes a part of the writing process as a team player and thus has a better leveraging position to voice her opinion: that if reviewers know what SMAD is, they will know what RNAi is. Using “we” allows the editor to establish a close, intimate relationship with the writer as a teammate (as
opposed to being a dominant figure, as in the hypothetical example above) in order to convince a potentially hesitant writer of a necessary change.

This personal relationship between the author and the editor is further enhanced by the editors’ recurrent use of subjects referring to people and their use of active finite verbs (as opposed to passive verbs), which again are characteristics of both Sweet and Tough talk. Both of these categories are traits of everyday conversational patterns because we generally speak of *people doing* rather than of *things being*. Consider Comment 3 of the Benson.CAREER proposal: “Since you’ve eliminated these items, [I] removed the second mention of Michelin as well.” This comment has both a human subject and an active finite verb, which creates a personal connection between the editor and writer. The editor could have taken a more impersonal approach through passive verb and neuter subject usage, both of which mark more formal (Stuffy) writing; however, this would have taken away from intimate relationship he is trying to create.

Rewriting the previous comment in passive voice with a neuter subject (i.e., “Since these items have been eliminated, the second mention of Michelin should be removed as well”) clearly demonstrates this point. Not only does this revised sentence create a much more formal, distant relationship between the writer and editor, it also eliminates the personal quality of the conversation at hand. Instead of two people discussing what actions they took, the revised version creates a sense of actions merely being done without human intervention. In a sense, the humans are erased. As such, the editors’ choice to avoid using passive voice and instead address authors in active voice strengthens the intimate relationship created by their use of colloquial language.
Finally, the informal communication and intimacy between editor and writer in both Tough and Sweet talk is created through the editors’ avoidance of excessive subordination and their use of contractions and fragments. When speaking to someone familiar, most individuals use short sentences with minimal subordination in order to clearly articulate their ideas. In addition, subordination also involves evaluations; based on syntactical structure, information placed in the main clause will appear to be more important than information placed in the subordinate clause. Therefore, to make clear comments and avoid this issue of evaluation, the editors tend to use simple and compound sentence structures, as opposed to complex and compound complex sentences. Take for example Comment 23 of the Mae.AHA proposal: “in the figure, terms used in descriptions 1, 2, and 3 are inconsistently capitalized. Suggest capitalizing only the first word in each phrase.” When examining this sentence, the writer gains a sense that Mae is sitting right next to him/her pointing to the text as she makes her suggestion.

However, if this comment is rewritten to create more complicated sentence structures, it becomes more verbose and more difficult to read, and it loses that sense of closeness that the simple syntactical structure created: “In the figure, the terms used in descriptions 1, 2, and 3 are inconsistently capitalized, so I suggest that you capitalize only the first word in each phrase in order to remain consistent.” Such a revision makes this sentence less conversational: this is simply not how people talk in everyday situations. The result of choosing such complex sentence structures could negatively affect the

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4 Obviously, this revised comment and the one in the following paragraph are not exemplar of how a person would generally go about making a suggestion. They are merely examples of how heavy subordination can affect a reader’s perception and understanding.
intimate, trusting relationship the editor needs to develop to effectively convey his/her argument. In addition, if the editors chose to write with heavy subordination, their use of the other colloquial language characteristics described above would seem out of place in such formal syntactical structures; for instance, it may seem odd for the editor to use fragments in such complex sentences, but using fragments in simpler sentence constructions adds to the conversational tone. As such, the editors’ use of simple sentences is effective in strengthening intimate, personal relationships with writers.

In addition to taking away from the conversational tone of an editor’s comments, heavy subordination also seems to make their recommendations more difficult to decipher quickly. For instance, in Comment 12 of the Benson.CAREER proposal, the editor writes: “Recommend explaining PEER and WISE since they definitely work with underrepresented groups—only a line or two, ties into comment 10.” If this sentence is rewritten to have more subordination, its verbosity makes it more difficult for the author to determine quickly what revisions the editor is suggesting: “I recommend that you explain in a line or two what PEER and WISE are since they definitely work with underrepresented groups, which ties into what I said in comment 10.” The more complex comment, with its heavy subordination, full sentences, and increased number of prepositional phrases, makes it more difficult for the author to identify the editor’s suggestions. In the original comment, the author clearly makes a suggestion for revision, explains the reasoning behind the suggestion, and explains how to incorporate the revision; each of these components is easily identifiable. However, in the revised version of this comment, the suggestions about how to revise this section and how it ties into
Comment 10 are embedded in the sentence. Therefore, the editors’ choice for using
simple sentences not only adds to the conversation-like tone of their comments but also
makes their suggestions easier to identify and thus implement.

The editors’ use of contractions also makes their comments seem more
conversational. In Comment 3 of the Benson.MEM proposal the editor writes: “What’s
the dif?” This comment, with the contraction and the abbreviation of difference, “echoes
speech patterns” (131) as Gibson says, making it seem like the editor is actually there
talking to the writer. The editors’ use of sentence fragments, or “groups of words
punctuated as sentence, but lacking a subject or a verb or both,” (131) also contributes to
the apparent open conversation between the editor and writer. Many of the editors’
comments were comprised of sentence fragments: “Best to remove…”
(Benson.CAREER, Comment 14), “since you asked for a synonym” (Mae.NIH.2,
Comment 31), or “moved text to be near similar text, above” (Mae.AHA, Comment 8),
just to mention a few. These fragments5, like minimal subordination and contraction
usage, are common to everyday informal speech. Because the editors feel a sense of
intimacy with the writer, they do not go out of their way to formalize their speech. They
assume that the writer will be very familiar with the document and will therefore know
exactly what they mean in their comments; as such, they do not feel as though they have
to use complete sentences or formal language to convey that meaning.

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5 It is also likely that editors choose to use sentence fragments due to the limited space provided in
comment boxes. While Microsoft Word does not limit how much an editor can write in the comment box,
both Benson and Mae generally kept their comments short, probably due to time considerations and
because lengthy comments become difficult to write and see in the small comment boxes.
The intimacy that the editors create with the engineer writers contributes to their ability to convince them to accept the revisions. Obviously, proposal writing is a serious activity that needs to be approached with a certain level of gravity and professionalism; however, using a more formal language style could make the editor come across as being pompous and overly verbose with how he/she conveys his/her knowledge and expertise. If, as result of a more formal style, the engineer writer feels that the editor is merely being pretentious, he/she may simply ignore the comments. In addition, a more formal style marked by long-winded wordage and complex subordination may make the editor’s arguments unclear, which again may lead to the writer simply ignoring the suggestions. The editors’ more informal tone, however, enables them to impart their knowledge non-confrontationally in a clear and understandable way.

Although both the Tough talker and the Sweet talker use colloquial language to create an intimate relationship with their reader, the intimacy each creates is slightly different: the Tough talker creates a tense intimacy with his reader that is focused on his/her own needs, while the Sweet talker creates a welcoming intimacy that is based on the reader’s needs. In these analyses, this difference in intimacy was caused by the editors’ use of more Tough or Sweet style characteristics when constructing certain parts of their comments.

**The Sweet Talker**

The Sweet talker creates a welcoming intimacy with his/her reader in which the reader’s needs and concerns are put first. As Gibson says, the Sweet talker writes “as if
he knows [the reader] exceedingly well” (76) and “may use rhetorical devices of informal speech…to secure [this] intimacy” (85). In these proposals in particular, the editors’ Sweet style is apparent in their use of informal punctuation, monosyllabic words, questions, second-person pronouns, and modal auxiliaries.

Because traditional modes of writing limit a writer’s ability to mimic conversational speech, both Benson and Mae adopt the more informal writing strategies characteristic of the Sweet style in order to sound as though they are actually engaged in a conversation with the engineer writers. In particular, the editors’ use of punctuation (namely dashes), monosyllabic words, and questions create this close conversation-like feel in terms of the language they choose for developing their comments.

According to Gibson, “The liberal use of the dash gives an effect of breathlessness—literally a characteristic of an actual speaking voice…furthermore, relations between parts of a sentence connected by dashes remain logically in the air, another characteristic of our elliptical and loose syntax in conversation” (133). As such, the editor’s use of dashes echoes the sound of informal discourse, such as in Comment 5 of the Benson.CAREER proposal: “Always best to refrain from ‘if’ usage—weak word again, conveys doubt that you can do what you say you’ll do.” The dash, in conjunction with the contraction and the sentence fragments previously discussed, makes it seem like the editor is actively engaged in a personal conversation with the author, almost like he is sitting right next to the writer and referencing the text as he speaks.

In addition, the majority of words in the editors’ comment (like in the comment above) are monosyllabic, which again reflects the colloquial aspect of the editors’ speech.
In informal, everyday conversation, people are generally less verbose and tend to employ simple vocabulary as opposed to multisyllabic and/or complex words. In fact, a great deal of the multi-syllabic words the editors use in their comments come directly from the engineer writers’ proposals; the editors use these words simply because they must in order to effectively comment on the text at hand. For example, in Comment 3 of the Mae.AHA proposal, the editor writes: “You first use both PLA and polylactic acid nanoparticles on page 5. Polylactic acid nanoparticles is not used again.” In this comment, like in many of the editors’ other comments, the only words with more than two syllables (i.e., polylactic and nanoparticles) directly reference the author’s text. The rest of the comment is comprised of predominately monosyllabic words and a few disyllabic words. These simpler words, which are more common to everyday conversation, are more effective in conveying the editors’ concerns and are also easier for the writers to comprehend. Thus, the editors’ use of simple, monosyllabic words characteristic of the Sweet style is yet another way that they create an intimate, familiar relationship with writers in which the editor shares his/her knowledge and the author’s needs are considered as well.

The editors’ use of questions also adds to the conversation-like feel of their comments. As Gibson states “More than any other mark of end-punctuation the question mark engages the assumed reader directly” (134). In addition to engaging writers, by asking them questions directly, the editors are reinforcing the idea that they care about the authors’ input and opinions, such as in Comment 7 of the Benson.MEM proposal: “Maybe your could drop this sentence? It’s best for tasks to be independent of one
another (e.g. what happens if you have difficulties with 1 and 2?—is that a showstopper?)” Not only is the editor speaking directly to writer, but by writing “maybe” he is also soliciting the writer’s feedback. In addition, the parentheses and dash in this sentence add to the closeness created by this sentence: the parentheses make it seem like the editor is whispering a secret to the writer, and the dash echoes the breath-like feel of everyday conversation.

Questions also make the writer feel as though the editor is present, soliciting feedback about various questions he/she had while revising the proposal. For example, in Comment 24 of the Mae.NIH.2 proposal, the editor asks “is this name correct?” and then explains that she “can’t find in on the Internet.” In this case, the editor needs to solicit the writer’s feedback in order to determine the proper spelling of a product because her other resource for doing so (i.e., the Internet) is insufficient. Comment 19 of the Mae.NIH.1 proposal is similar. In the text, the engineer writer wrote “This represents not a competing, but a complementary approach, as investigated in Aim 3.” In response to this text, the editor asks “Complementary to what?” Again, the editor needs the author to share his/her knowledge about this particular piece of text in order to revise it for clarity because Mae does not have the technical knowledge to do so on her own.

This also relates to the function of questions in the Toulmin et al. analyses, in which questions take on the form of a rebuttal to the editor’s warrants or claims. Being asked such questions directly signals to the reader that the editor is unsure about the particular claim he/she is making and that, depending on the answer to the question, the
author him/herself has to make the ultimate editorial decision because the editor does not have enough information to do so.

Although the editors frequently comment on their own thoughts and actions, they also concentrate a great deal on the writers, addressing them directly through the use of “you.” For example, in Comment 5 of the Benson.MEM proposal, the editor writes a rather long comment in which he uses both first- and second-person pronouns:

The first version was a little vague; [I] tried to clarify this and this sounds correct as differing from the other two tasks, but [I] wanted you to see it. Also, in the subsequent sentences, can there be more than one unit per district? I changed that too under the supposition that most EMT fixed assets have several ambulances, but because you refer to single unites more than once, [I] am not sure.

While the first-person pronouns are characteristic of the Tough style and generally make the editor’s speech seem self-centered\(^6\), the editor’s use of “you” here and the content of this comment show that Benson is more concerned about the author’s thoughts and choices regarding the text this comment references and not so much on his own. Using second-person pronouns and addressing the author directly enable the editor to show that the author is the ultimate decision maker in the proposal writing situation and that his/her technical knowledge of the content is superior than the editor’s.

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\(^6\) When writing an editorial comment, it is often difficult for an editor not to include him/herself specifically, especially when he/she is conveying an opinion. As a result, it is difficult to find a comment without any personal reference on the editors’ part. This particular comment was chosen because, although it does contain first-person pronouns, many of those first-person pronouns were not directly written, but were implied. Additionally, in this comment, it is clear that the editor is more concerned with the writer’s opinion as opposed to his own.
It is also interesting that the editor did not actually write “I” in this comment but merely implied it, even though he obviously revised the text and is stating his uncertainty. Again, this seems to relate to his desire to concentrate on the writer’s concerns and less so on his own. So, in this particular comment, the editor’s use of “I” merely described what steps he took but had nothing to do with his knowledge, whereas his use of “you” engaged the writer and demonstrated that he/she had the ultimate authority. This use of “you” may be especially important when editing engineers’ documents, as the literature suggests that they are particular wary to implement revisions suggested by a “non-expert,” or someone outside of their technical field. However, by focusing the comment around the writer’s needs and demonstrating that the change will improve his/her writing or credibility, the editor can suggest revisions in an effective manner. At the same time, the editor is the writing expert and thus needs to do his/her job to improve the document; therefore, the editor needs to balance this “you-centered” aspect of Sweet talk with the more “me-centered” aspect of Tough talk in order for engineer writers to accept sound claims and warrants.

In addition, the editor’s use of modal auxiliaries and qualifiers, also discussed by Toulmin et al., also adds to this focus on the writer’s needs. As Gibson says, modal auxiliaries “express some kind of attitude (it has been called ‘emotional’) toward the action that the verb names” (122). Through their comments, the editors’ attitude reveals that they are concerned about the writers’ opinion: “[You] may need to…,” “[You] might want to…,” “Can anything else be unbolded,” etc. Although the editors are ultimately

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7 I.e., may, might, can, could, would, should, must, and ought.
making suggestions about what they believe the writer should do, through their use of modal auxiliaries, it appears that they are leaving the final decision up to the writers themselves, which, in turn, most likely makes editors’ arguments more appealing to writers, as they are given a voice in the decision making process.

Modal qualifiers have a similar affect on the editors’ comments. Take, for example, the following comments: “We probably should...,” or “Montessori is generally perceived...” When modals like these are omitted, the editors’ tone becomes much more demanding: the comments “You need to...,” “You want to...,” “We should,” and “Montessori is...” are all much more straightforward; however, they may also come across as being overly harsh, possibly making the authors feel as though the editor is trying to force them to take actions or think in a particular way.

Clearly, the modals enable editors to develop their arguments without coming across as tyrannical or overstepping their role in the author/editor relationship. Again, this may be particularly crucial when working with engineers, or subject matter experts, as they often believe that the way something is written does not affect its meaning. If editors create their arguments with modals (which imply that their claims could be wrong in the end), their tone may be more persuasive than if they give direct commands. Thus, when editors create arguments to convince writers to accept their revisions, it seems advisable that they use modal qualifiers whenever they can. Again, doing so allows them to convey their suggestions as to how the text should be changed but also allows the author to know that the claims could be wrong and that ultimate decision is his/hers.
The more personal relationship that the editors’ use of Sweet talk creates is very important as they try to convince writers to accept their arguments for revision. By creating the impression that they do in fact care about what the writers have to say, the editors seem to engage the authors in the revision process more actively, allowing them to provide their input and knowledge. When individuals feel that their input will be positively accepted in any given situation, they are much more likely to participate reciprocally in the activity at hand. In addition, the editors’ use of modals also allows them to demonstrate that they are aware that some of their claims may be incorrect and that the writer’s advanced technical knowledge is necessary to prevent errors from being introduced into the text. As such, if writers feel that they have a say in what the editor is revising, that the editor actually values their opinion, and that their counter-arguments to the editor’s claims will be acknowledged, it is likely that they will be more open to the editor’s arguments and accept more of the revisions.

The Tough Talker

While the Sweet talker creates a more welcoming, reader-centered relationship with his/her audience, the Tough talker’s intimacy with his/her reader is based on assumed shared knowledge and centers on the editor’s goals, knowledge, and concerns. The editor’s use of “to be” forms of finite verbs, first-person pronouns, and modifiers, are distinct to the Tough talker. According to Gibson, the Tough talker puts the reader in a position “where he is expected to assume that he does know what the speaker is talking about…as if, for the assumed reader, a conversation had been going on before he opened
the book [or proposal in this case], a conversations that lad the groundwork for all this assumed intimacy” (38). Because of this assumed closeness and common knowledge with the reader, the Tough talker uses a simple style and does not go out of his way to explain every detail about what he is discussing, nor does he flourish his language with modifiers. This aspect of Tough talk can be seen in several of the editor’s comments. For instance, in Comment 3 of the Benson.CAREER proposal, the editor writes “Since you’ve eliminated these items, [I] removed the second mention of Michelin as well.” Anyone other than the writer of this piece would be confused as to what “these items” refers to; however, because the editor feels a sense of close intimacy with the writer, he believes that the writer will know exactly what he is talking about. Thus, as the Tough talker, the editor does not bother to explain what “these items” refers to; he merely expects the writer to know. The writer is “reminded that the narrator [the editor in this case] knows [him/her], speaks familiarly, doesn’t in fact go out of his way” (Gibson 35).

Because the editors frequently chose to use “to be” forms of finite verbs and first-person pronouns, the intimacy they create with the writers is quite often focused on their own knowledge. By using “to be” forms of finite verbs, the editors leave no room for the writer’s counter-arguments. Take, for example, Comment 7 in Mae.NIH.1 proposal: “it’s easier to read the main words if all words are not underlined,” or Comment 12 in the Benson.DARPA proposal: “Chicago Manual plural for edited by is eds.” Through the editors’ use of “is” in both cases, they make it appear that the knowledge

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8 In this case, the comment box does not point to the text being referred to the way Word’s Comment function ordinarily does. Thus, this example is probably the exception rather than the rule.

9 E.g., “You are good,” “the plane is small.”
they impart is the absolute truth and that alternative ideas are ultimately wrong. In the second case, the knowledge the Benson provides is certifiable: if the author questions this statement, he/she can reference the *Chicago Manual of Style*.

However, the first comment, is not certifiable but is based on opinion, so the editor is ultimately trying to show that her opinion in this case *is* true. In this case, Mae could have qualified this statement by saying “*For most individuals,* it’s easier to read…” or “*generally,* it’s easier to read…,” but doing so would take away from Mae’s assertion of her own expert writing knowledge. The editors’ ability to focus comments around their knowledge and intentions may be particularly important when working with engineers, who often want reasons behind the changes editors make. If the editor can describe why he/she made the change in a strong manner, then engineer writers may be more willing to heed the comment’s advice, as they believe the editor’s revision is well grounded. As the literature suggested, engineers respect editors who can edit effectively *and* who can explain why they make the changes they do.

This finding of my Gibson analyses relates directly to my discussion of opinion-based warrants that initially seem to lead to unsuccessful arguments but will most likely result in engineer writers accepting the editors’ claims. While engineer writers prefer evidenced-based facts and explanations as opposed to those based only on personal opinion, there are instances when editors face time and space constraints that limit their ability to provide theory- or handbook-based explanations for their revisions. In addition, there are also cases when editors may simply base their revisions on the practical knowledge they have gained through years of experience; thus, in such cases, it is likely
that they do not have a definitive source from which they can develop the warrant to support certain claims. In most of these instances, because editors are language experts, engineer writers may accept changes and explanations even when editors do not provide substantiated warrants for their revisions. That being said, however, editors should also realize that their audience, in this case engineers, may not value or rely on just their opinion, so such arguments may fail in the end.

This seemingly self-centered presentation of the editors’ knowledge is also apparent in their use of the first-person pronoun, “I.” The use of “I” makes it appear that the editors believe that their actions and thoughts are more important than the writer’s. This idea is seen in several of the editors’ comments: “I added…,” “I took out…,” “I have…,” “I made…,” “I thought…,” and so on. In each of these instances, the editor seems to reveal “himself to be more concerned with his own attitudes and feelings” (119) and less so with the writer’s. However, the use of first-person pronouns is necessary for the editors to discuss the changes they made with the author in addition to their opinions and feelings about the text. It is likely that writers will not be put off by the editors’ use of “I” in these comments because the writers are asking for the editors’ assistance and thus expect their opinions in the form of “I” statements. The editors’ use of “I” does revolve around their knowledge and opinions, but combining this particular aspect with the “You-Talk” of the Sweet style enables the editor to argue for changes without becoming too intrusive on the writer’s “you.” This way of speaking is simply based on the editor’s authority in the writing situation, which is formed from his/her language and writing expertise.
Although Gibson seems to believe that the Tough talker is a bit forceful and self-centered, the editors’ use of the Tough style is necessary for them to share their knowledge with the writer. By using “to be” finite verbs and centering their comments around their own knowledge, editors can tacitly demonstrate to the author that they know what they are talking about without having to provide excessive explanations or constantly justify their actions with excessive warrants. This, in turn, may give the writer more confidence in the editors’ ability, which, as discussed before, is essential for creating author/editor relationships in which the writer heeds the editor’s revisionary advice.

At the same time, however, by using such forceful language and centering their comments on their own thoughts and attitudes, editors risk pushing writers too far out of the decision-making process and even offending them, which could result in the writers ignoring or rejecting suggestions and arguments that could greatly improve their documents. Therefore, editors should also implement various features of Sweet talk in order to balance their claims with the writers’ opinions and concerns, which will be discussed in the Chapter 5.
Chapter 5
Concluding My Argument on the Comment Box

The Toulmin and Gibson analyses of the comments in these six proposals revealed many interesting characteristics about the relationship between the CoES technical editors and the six engineers they worked with. These analyses reveal the main stylistic choices and argumentative strategies that two successful editors\(^1\) in academic proposal writing environments utilize, whether consciously or unconsciously, to develop relationships with the writers they work with and reason for revisions. The main point that current and prospective editors should take away from these analyses is that writing effective comments and arguing for change is about balance: balance between concentrating on one’s own needs and beliefs and those of the writer, between sharing one’s own language expertise and knowledge and knowing when to ask questions, and balance between using conversational speech and providing quality suggestions. More importantly, however, there needs to be balance between warrants grounded in the engineers’ assumption and in the editors’ ethos established in the language they use to create relationships with writers.

Creating this balance will ultimately help editors to create successful arguments and have the writers they work with accept those arguments. Balancing Tough and Sweet talk allows editors to share the knowledge and skills they have developed as language experts in a non-threatening way such that writers will heed their advice but still

\(^1\) We can assume that they are in fact successful because 1) writers return to these editors recurrently for advice of their own free will and 2) they have edited proposals that have been funded, some of which received million-dollar grants. This will be discussed further in this chapter in the Limitations section.
feel as though they are a part of the writing process. Benson and Mae’s use of both Tough and Sweet talk, both of which are characterized by intimacy with the author and a conversation-like tone, allowed them to develop close, yet comfortable, relationships with the engineer writers in order to provide the conditions that seemed to allow for equal contributions for both parties. The characteristics of Tough talk, which center around editors’ expertise and attitudes, allow editors to state warrants and claims in a way that demonstrates that they are the language experts and have the resources necessary to make the writers’ prose most effective. The characteristics of Sweet talk, on the other hand, allow the editors to demonstrate to the writers that they are still an important part of the writing process and that the editors value their opinions in the argument. In addition, Sweet talk enables editors to qualify their comments (especially through the use of modals) such that the writer knows that he/she is the content expert and that the editor’s claims could ultimately be wrong. Thus, the balance between both Sweet and Tough talk sets up the relationship and conditions editors need in order to have the writers they work with accept their sound arguments and implement their suggestions.

Style as Part of a Successful Argument

Both the Toulmin et al. and Gibson analyses independently provide a great deal of insight into how editors develop arguments for their revisions and how they create successful relationships with writers, respectively; however, when taken together a more substantial finding emerges: the stylistic choices editors use when developing their
comments actually become an important part of how they create successful arguments that result in writers accepting and implementing their suggestions for revisions. Style essentially becomes an unstated warrant in itself. As these analyses have revealed, this stylistic influence is particularly evident when editors develop arguments based solely on their opinions and on the practical knowledge that they have gained from years of experience. This finding is extremely significant because editors frequently encounter situations in which they realize a writer’s text needs to be revised but know that they cannot provide the theory- or handbook-based warrants necessary to convince logical/objectivist-minded writers that their claim is valid. This research reveals that when editors combine the characteristics of the Sweet and Tough styles discussed in Chapter 4, they can create successful arguments (opinion-based or otherwise) that seem to provide a firmer basis with which editors can share their knowledge effectively and persuade writers to accept their changes.

What Editors Can Learn

As the literature suggested in Chapter 2, engineers have specific goals in mind when they create a document; however, it may take a technical editor for engineers to fully realize their persuasive potential. For novice engineers, the editor might make the overall writing process seem less tedious by providing overall guidance, examples, and corrections. For the more experienced engineer writer, the technical editor may serve as a final reviewer before the document is sent out for a more formal review. In any case,
however, argumentation and style are important aspects of editing. Therefore, the findings from this thesis can also be applied practically when editing for engineers and other technical writers. The following two sub-sections reveal these practical implications.

**What Editors Can Learn From Toulmin et al.**

Firstly, the Toulmin analysis revealed what strategies editors take when they develop successful arguments and what factors seem to make their argumentative suggestions less successful. Learning from this analysis, editorials students and even current editors should remember the following major points:

- Use the three-part comment structure whenever possible: provide the ground, warrant, and claim for each argument made, especially when establishing new author/editor relationships.
- Provide clear and accurate warrants; providing faulty warrants may diminish an author’s trust.
- Make sure that comments are not arguing for revisions that introduce errors into the text; again, this may diminish the author’s trust in the editor’s knowledge and abilities.
- Provide clear claims so the writer will know exactly how to change the text; writing unclear comments may leave authors frustrated and confused.
- Make sure that the comments refer directly to the text they reference; again, not doing so may leave writers confused and frustrated.
Each of these points can be easily implemented into the editorial process. At first, editors may need to take more time to review their comments to ensure that they have addressed all of these points when arguing for revisions. However, after several rounds of actively checking for and amending these issues in their comments, it is likely that the editor will internalize these points and create successful arguments from the onset.

*What Editors Can Learn from Gibson*

While the Toulmin et al. analyses revealed the argumentative characteristics of editor’s comments, the Gibson analysis uncovered several useful features about the language editors use to communicate with editors and how that language builds relationships with writers. The following list includes the language characteristics that lead to successful\(^2\) working relationships with authors as evidenced by the two CoES editors at Clemson:

- Use a conversational tone when writing author queries, including the use of one-syllable words, simple sentence structures, personal pronouns, active voice, subjects referring to people, sentence fragments, contractions, and informal punctuation.
- Avoid using overly formal language marked by a high number of polysyllabic words, passive voice, subjects referring to objects, and heavy subordination.

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\(^2\) Again, it can be assumed that the relationships between the CoES editors and the writers at hand are successful because the writers have voluntarily had several of their pieces revised by these two editors.
• Balance the use of first- and second-person narrative voice in order to convey your motivations, suggestions, and concerns, while acknowledging the author’s concerns and expertise.

• Use modal modifiers and verbs when you are unsure about the necessity of a revision.

• Use language and ask questions that actively engage the writer, so he/she feels included in the revisionary process.

• When creating comments based more on your practical knowledge, experience, or opinion, balance your concerns and attitudes with those of the writer by adopting the characteristics of Sweet and Tough talk.

Limitations

While the results of this thesis will help current and future editors in the technical editing field, there are also some limitations to this study that may hinder its applicability and generalizability to some extent. Probably the biggest limitation to this study is that the corpus of material was rather small and came from only two technical editors. In an ideal situation, a larger sample of technical editors and their respective proposals would have been available from which to choose, but there were few technical editors who were willing to subject their proposals to analyses. In addition, the limited scope of this paper made it impossible to look at documents other than technical proposals; however, it is possible that analyses based on comments from other documents could reveal findings different from those of this thesis.
Another major limitation to this study was the inability to determine which revisions the engineer writers implemented and which they ignored. Because of the limited scope of this thesis, conducting interviews with the engineering writers was beyond the means of this study; however, it would have been interesting to examine what engineering writers do when confronted with a comment, how they interpret editors’ arguments, and how they interpret the editors’ particular language choices.

Next, the proposals that were analyzed came only from native English speakers from Clemson’s College of Engineering and Science, which makes one wonder if comments directed to non-native English speakers would have similar characteristics as those from this study. Finally, this study has limited formal inter-rater reliability because no one available had a strong grasp of both the Gibson and Toulmin analyses techniques; as such, it was impossible for a novice analyzer to develop enough familiarity with these techniques to complete full analyses and obtain accurate results. That being said, many individuals did review this work closely to ensure that the findings were sound. These analyses have revealed several results that are both generalizeable and transportable to other technical editors and documents. And it is likely that if similar studies were undertaken, they would reveal findings similar to those in this study as a result of the objectivity inherent in these particular methods of analyses themselves.\(^3\)

\(^3\)Toulmin et al.’s analysis is based on the diagramming of logic, Gibson’s on a statistical breakdown of grammatical categories.
Future Research

This thesis has provided several useful suggestions that both novice and practiced editors can implement when querying authors; however, as this is only a pilot study, a great deal of research relating to this work could also benefit the technical editing field. The next step in this research would be expanding the analysis corpus to include editors from other technical fields and more types of proposals. If the results such studies are similar, they would make the results from this study and those from future studies sounder and thus more generalizable. In addition, the method I developed for this thesis could eventually go beyond comments from proposals to include queries from other genres, such as research articles, books, letters, and other technical documents and could even expand to include editorial comments from non-technical editors in traditional publishing houses or magazines.

Additionally, because of the influx of non-native English speakers in technical fields, it would be beneficial to study proposals and other documents from non-native English speakers to determine if these same principles apply to these writers or if the analyses reveal a whole other set of guidelines for working with such individuals. Finally, gaining first-hand information about the findings from this research from both editors and writers involved in the editorial process would further enhance the results from this thesis. Namely, interviews from these two parties, within the limits of interview protocols and human consciousness, could confirm the results obtained here and reveal other valuable characteristics of argumentation and relationship development in the comment box that these more formal analyses could not uncover. Nevertheless,
this research has provided the foundation for other studies attempting to unveil the complicated features behind developing successful author queries. More importantly, the results of these analyses provide student editors with some theoretically-based, yet practical, methods for developing successful author queries, creating effective tactful arguments, and building trusting author/editor relationships.
Clemson University, Clemson, SC. 18 April 2008.

Arfken, Deborah E., and Jim M. Henry. A Survey of Engineers: Writing Attitudes and 
Productivity. Annual Meeting of the Southwest Educational Research 


Corbin, Michelle, Pat Moell, and Mike Boyd. "Technical Editing as Quality Assurance: 

Crognale, Heather. “Long-Distance Editing: Tips for Editors on Managing the 


Appendix A

Editors’ Comments

Mae.NIH.1

1. I took out the double spaes after periods. I will put the doubles back in if you prefer.
2. Check meaning; I deleted “primarily.” The revised statement’s true, but may not have the emphasis you want.
3. “changing demographic trends resulting in”—these trends are a reflection, not a cause, right?
4. need to rewrite for coherence, but i think your ltg needs to be stated here
5. i have a question about clarity
6. not sure from the discussion above what the other essential characteristics are
7. it's easier to read the main words if all words are not underlined
8. try not to use "significant" in scientific/medical writing unless the reference is to statistical significance
9. great usage of this term
10. to make parallel with subsequent phrase
11. need some punctuation here; not sure this is it
12. since the study is so old?
13. would be less distracting if we could use the same tense throughout
14. did not check image since it was moving around
15. "last" is slightly negative
16. Do we need this definition? If the reviewers know SMAD, won’t they know RNAi?
17. Does this refer to RNAi (not the process)? May need to make the text a little clearer.
18. Don’t use a colon separate a verb from its complement, esp. when the bullets make it very clear that this is a list. I changed the bullets to numbers to avoid the redundancy of bullets and numbered aims
19. complementary to what?
20. don't need to qualify your search; they know when it had to have been conducted
21. need to talk about this section; need to make a clearer case for "WOW!"

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1 All of the comments are written as the editor wrote them in the proposals. Any errors were in the original comments.
22. may want to get an opinion about this; probably need to state a little more positively
23. this is very good; we probably should highlight it in some way

Mae.NIH.2

1. Reviewers could read this more quickly with some changes that apply to any closely written text:
   ----use parentheses to enclose one or more words; when used for numerals or single letters, especially in text blocks, they detract from readability by increasing clutter
   ----format key figure letters in bold; parentheses here decrease readability
   ----don’t bold complete sentences within a text block
   ----in figure text, place the key letters prior to the related text, so readers know where to look when they’re reading
2. vibratory groups; vibratory sample groups: use the same term consistently throughout. Also, use the plural consistently—group, groups
3. if you accepted the paragraph indentations to .3, make this change throughout
4. check period usage with citations
5. Still too much bolding, esp on this line; can anything else be unbolded?
6. i removed a period and space in the title of the figure to match this usage
7. period usage is inconsistent in text under figures. See 2B
8. spaces around "/" make it more difficult to read quickly
9. comma between full sentences
10. In all figures, increase ease of reading and the reader’s ability to switch between the text and the figure, by
    ----formatting figure letters in bold (but not italic) as in Figure 10 below; parentheses here decrease readability
    ----placing the letters prior to the related text (period is optional), so that readers know where to look when they’re reading
11. Is relatively necessary? If so, relative to what? In general relatively
12. better not to use this word in proposals unless you support the claim; alternative: notably
13. easier to understand if we know what we're reading about before we read details
14. no comma because the adjectives can’t be interchanged
15. do we also want to put this earlier per our conversation yesterday?
16. Next time, change Fig. 7 so that fibromodulin is capitalized (to parallel the rest of the list)
17. needed ";" or "and"; comma alone is incorrect
18. just wanted to point this out; I know this is how chemists write
19. These two sentences succinctly describe some of what you want to say in the intro.
20. With the revised bolding, the sentence can be read more easily and quickly. Remember, reviewers don't want to read every word, and any reader with a PhD will not need to read every word.
21. must have this comma or write "the increased MMP/decreased TIMP expression"
22. because you don't want to appear to assume that it definitely alters one of these, right?
23. the flowchart is not experimental
24. is this name correct? I can't find it on the Web
25. I made regularizing changes in text accompanying most of the figures in this proposal; if you approve, please paste the changed text into the final version
26. " is correct, not '
27. "from" carries the meaning; don't need "instead"
28. these are en dashes
29. “vibratory” is used in the Aims, and I think it was the usage chosen for the manuscripts
30. italicization of these terms is inconsistent throughout
31. since you asked for a synonym
32. do you want to say he’s professor of cell biology?
33. don't use "greater than" symbol unless it has a special meaning here
34. periods always inside quotation marks
35. visually easier to follow the series if the numerals are not underlined
36. need “1” and “1.1”
37. second set of parentheses should be "[ ]"
38. better coherence
39. sentence needs a verb
40. no capitals unless referring to Promoter Extraction from GenBank (PEG), right?

Mae.AHA

1. Turned off Track Changes to replace double spaces after periods with single spaces.
2. check indentations at the beginning of paragraphs; I do not see a pattern
3. You first use both PLA and polylactic acid nanoparticles on page 5. polylactic acid nanoparticles is not used again.
4. check to see if revision is OK with you
5. use Arabic numerals and only 1 parenthesis; doing so makes your numbered text easier for the eye to find when, for example, a reviewer scans the page
6. this transition isn’t very coherent. The first several sentences
7. check this transition and the following paragraph for coherence
8. moved text to be near similar text, above
9. is this strengthened claim OK?
10. many people write previously studied, but it’s usually redundant
11. reviewers will still see the unbolded words
12. I think parentheses can sometimes make text more readable than the use of
   several commas, esp. when terms are lengthy
13. see what you think of this change
14. check meaning
15. check wording
16. check meaning; this change makes a big difference in meaning
17. don’t need a hyphen after an “ly” word
18. don’t need hyphen if the word modified comes before the modifiers (there are no
   words following the modifiers, so we can’t be confused about which words go
   together)
19. “preferential” means “to show preference.”
20. Check pluralization
21. term is not used again in this text, so I deleted abbreviation
22. check
23. in the figure, terms used in descriptions 1, 2, and 3 are inconsistently capitalized.
   Suggest capitalizing only the first word in each phrase
24. check meaning; an "amount" of a substance or a "number" of samples
25. i thought the original wording was unclear; not sure if this revision is what you
   meant
26. if the claim is too strong as revised, place "future" immediately before
   "development."
27. not sure why the alternative is more efficient? makes it sound like this should
   have been the primary design
28. check this big change

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**Benson.DARPA**

1. To do what?
2. NSF/NIH standard workbooks suggest using the author/year e.g. (Brooks et al., 2004) citation strategy. Your primary and secondary reviewers will be close enough to your work to recognize citations presented first as author/year. Regardless of suggest familiarity, current citation strategy forces reviewers to “flip” to the citation section and look. It’s not really reviewer friendly.
3. Do you mean simple or do you mean not previously subjected to experiment. If simple, suggest a change since this word is usually associated with people, emotions, etc.
4. Might want to change a bit so reviewers know what “this” is.
5. Changed to remove “we” use as a pronoun for the system
6. Try to avoid the pronoun “this” when starting a sentence. It always leads a reviewer to ask what the “this” is.
7. Cliché.
8. Weak phrase
9. Can current applications automatically add their own security attributes for an Application Programming Interface or does a develop need to? Rewrote in the past tense to recover the bases.
10. Best to be gender neutral.
11. Looks like this sentence detailing a simple approach to key assignment works best as a segueway [sic] into a more sophisticated approach.
12. Chicago Manual plural for edited by is eds.
13. Retabulated [sic] employment info—first entry had a hanging indent.

Benson.MEM

1. Don’t think this sentence is necessary since you’re dealing primarily with medical units. Research you’ve cited is adequate.
2. Sentence needed clarity but unsure if technically correct
3. What’s the dif?
4. By whom? May be good to say.
5. Check this; the original was unclear. Are first responder and unit the same thing?
6. The first version was a little vague; tried to clarify this and this sounds correct as differing from the other two tasks, but wanted you to see it. Also, in the subsequent sentences, can there be more than one unit per district? I changed that too under the supposition that most EMT fixed assets have several ambulances, but because you refer to single units more than once, am not sure.
7. Maybe you could drop this sentence? It’s best for tasks to be independent of one another (e.g. what happens if you have difficulties with 1 and 2?—is that a showstopper?)

Benson.CAREER
1. Dr. Summers, no need to use e.g. here if this is a citation. NSF/NIH standard workbooks suggest using the author/year e.g. Summers, 2004 citation strategy. Your primary/secondary reviewers will be close enough to your work to recognize citations presented as author/year. However, they will not be able to recognize them unless they flip to the lit cited section. Because this is not user friendly, best to refrain from doing so. Since you’re citing yourself some, this is also a clever way to get across the idea that you’ve done the work being cited.

2. Should is a weak word. Do you plan to investigate how the tool impacts the design process? It sounds like it, so you can simply say will.

3. Since you’ve eliminated these items, removed the second mention of Michelin as well.

4. FYI: no colons when introducing a series with a verb.

5. Always best to refrain from “if” usage—weak work again, conveys doubt that you can do what you say you’ll do. Expected always lets reviewers know you plan to succeed but gives you some “rhythm” in case you do not.

6. Cliché

7. Weak words, “might be”. [sic]

8. In scientific writing passive voice is de rigueur [sic], but with proposals it’s okay to use “We” when you feel like it.

9. Be detailed about transparency; this sounds like a generality which doesn’t convey much. Do you mean that you’ll conduct surveys to see if engineers want “total hands-on” control from start to finish?

10. Not sure that this section really hits your underrepresented groups that NSF Career reviewers look for. Montessori is generally perceived to cater to upscale kids. However, on page 2 of the Broader Impacts Merit Criterion, this might be addressed by the quote “certain types of academic institutions”. [sic] Maybe a little rewrite on how this work might be targeted to GIRLS/MINORITIES at Montessori could expand your underrepresented groups. ☺

11. [Beginning of comment includes all of comment 10 and then moves into newer comment] I’ve read some other work where professors actually bring primary and secondary kids out of the school and into a Clemson lab environment. Since you’ve got the lab facilities, maybe you could do the same? ☻

12. Recommend explaining PEER and WISE since they definitely work with underrepresented groups—only a line or two, ties into comment 10.

13. Growing pains; Cliché

14. How? Best to remove. Supporting in part or in whole is support, regardless.

15. Tautological. Since you’ve cited it, no need to say what it agrees with.
Appendix B

Toulmin Charts for the Editors’ Comments

Mae.NIH

Mae.NIH.1 A1.1

Warrant 1

Putting only one space after a period gives the author more room in the proposal for important information.

Ground 1

The author puts two spaces after periods.

Claim 1

The author should only put one space after periods.

The author “will put the double spaces back in if the [author] prefers”

Rebuttal

A1.2

Warrant 2

The author has specific reasons for putting double spaces after periods that the editor is unaware of.

Ground 2

The author does prefer double spaces after periods.

Claim 2

The author should ask the editor to put the double spaces back in.
Mae.NIH.1 A2

**Warrant**
Sometimes editors inadvertently make changes that alter the author’s meaning.

**Ground**
The editor revised a particular sentence and is concerned that “the revised statement...may not have the emphasis [the author] wants.”

**Claim**
The author should “check [the] meaning” of the revised sentence to make sure that the meaning was not changed.

Mae.NIH.1 A3.1

**Warrant 1**
The editor believes that in the phrase “changing demographic trends resulting in,” the trends are a reflection, not a cause.

**Ground 1**
The author writes: “Furthermore, improvements in health care and changing demographic trends resulting in increased life expectancy,”

**Stated**
The author should rewrite the sentence to reflect that the “changing demographic trends” are a reflection, not a cause (as the original sentence seems to indicate).

**Claim 1**
“These trends are reflection, not a cause, right?”

**Warrant 2**
The editor misunderstood what the author was trying to say.

**Ground 2**
The editor is not right and the trends are a cause and not a reflection.

**Rebuttal**
The author should disregard the editor’s comment and revision.

**Claim 2**
The author should
Mae.NIH.1 A4

Warrant

Coherence is important in writing so one’s reader can easily follow what one is trying to convey.

Ground

The editor feels like the author’s writing is not very coherent in this particular paragraph.

Claim

The author “need[s] to rewrite for coherence, but...[the author’s] fig [long-term goal] needs to be stated here” as well.

Mae.NIH.1 A6

Warrant 1.1

The editor “is not sure from the discussion above what the other essential characteristics are.”

Warrant 1.2

It looks as though the author left out important information, which may make reviewers judge the proposal negatively.

Ground

In a previous section, the author mentions that there are several essential characteristics of a suitable microenvironment, but the author only seems to mention one characteristic.

Claim

The author needs to mention the other essential characteristics of a suitable microenvironment or needs to make it clear that there is only one characteristic.
**Mae.NIH.1 A7**

**Warrant**

The author writes: "...the absence of factors/processes that inhibit tissue formation/regeneration, specifically elements of the adult wound healing response."

**Claim**

"It's easier to read the main words if all [of the] words are not underlined."

The author should write not underline any of the words but use bolding instead.

**Mae.NIH.1 A8**

**Warrant**

The author writes: "...with the adult wound healing response poses a significant and critical challenge..."

**Claim**

In scientific/medical writing, "significant" is usually associated with statistical significance. So using "significant" as an adjective without referring to statistical significance may confuse reviewers.

The author "should try not to use "significant" in scientific/medical writing unless the reference is to statistical significance."
Mae.NIH.1 A10

Warrant

This change is necessary "to make [the first phrase] parallel to the subsequent phrase."

Stated

The author should write: "...consists of comparisons between early-fetal scarless healing of dermal wounds and the adult-fibrous scarring response."

Ground

The author writes: "...consists of comparisons between scarless early fetal healing of dermal wounds and the adult fibrous scarring response."

Claim

Mae.NIH.1 A11.1

Warrant 1

The text "need[s] some punctuation here."

Stated

The author writes: "TGF-1 stimulates macrophage and fibroblast chemotaxis and increased fibroblast collagen synthesis..."

Ground 1

The editor is "not sure this punctuation is it" (i.e., the needed punctuation).

Claim 1

Warrant 2

The editor is unsure what the author is trying to say in this sentence and thus does not know how to punctuate the sentence correctly.

Rebuttal

Ground 2

The editor did not put in the proper punctuation this sentence needed.

Claim 2
Mae.NIH.1 A13

**Warrant 1.1**

“It would be less distracting if we could use the same tense throughout.”

**Warrant 1.2**

Reviewers may become aggravated and confused when the author does not write using the same tense throughout.

**Ground**

The author uses different tenses (past and present) throughout a particular passage in the proposal.

**Claim**

The author should change all verbs in this section to the same tense.

Mae.NIH.1 A14

**Warrant**

There may still be errors in the image.

**Ground**

The editor “did not check [the author’s image] since it was moving around.”

**Claim**

The author should check the image in case there are any errors.
Mae.NIH.1 A15

Warrant
"Last" is slightly negative.

The author writes: "...developed in the PI's lab over the last three years."

Claim
The author should write: "...developed in the PI's lab over the past three years."

Mae.NIH.1 A16.1

Warrant 1.1
If the reviewers know what SMAD (previously mentioned in text) is, then they will know what RNAi is, so they don't need a definition.

Warrant 1.2
 Deleting the definition of this common term creates room for more important information and helps the author avoid annoying the reviewers with common knowledge.

The author writes: "RNA interference (RNAi) has been chosen as a method to inhibit scarring through..."

Ground 1

A16.2

Warrant 2
The editor was mistaken about the reviewers knowledge on this subject

Ground 2
The reviewers do not know the definition of RNAi, so it needs to be included in the text.

Claim 1
Do we need this definition? If the reviewers know SMAD, won't they know RNAi?

Claim 2
The editor should disregard the editor's comment and include the definition.

The author should delete the definition of RNAi.

Stated
Mae.NIH.1 A18.1

Warrant 1

"Don't use a colon [to] separate a verb from its compliment, esp. when the bullets make it very clear that this is a list.

Ground

The author writes: "The specific aims of this project are" and then provides a bulleted list of the aims.

Claim

The author should write: "The specific aims of this project are" and then provide the list.

Mae.NIH.1 A18.2

Warrant 2.1

The editor "changed the bullets to numbers to avoid the redundancy of bullets and numbered aims."

Warrant 2.2

In NIH proposals, specific aims are generally listed as: Aim 1, Aim 2, Aim 3, etc., so having both bullets and numbers would be redundant.

Ground 2

The author uses bullets to set off the list of his/her specific aims from the rest of the text.

Claim 2

The author should accept the editor's replacement of the bullets with numbers.
Mae.NIH.1 A19

Warrant
It is unclear what the approach is complementary to.
("Complementary to what?")

Ground
The author writes: "This represents not a competing, but a complementary approach, as investigated in Aim 3.

Claim
The author should explain what the approach is complementary to.

Mae.NIH.1 A20

Warrant
The author does not "need to qualify [his/her] search; they [the reviewers] know when it had to have been conducted."

Ground
The author writes: "At the time this proposal was written, a Medline search of 'tissue engineering and RNA interference' revealed only 5 publications."

Claim
The author should write: "Fewer than 10 publications address 'tissue engineering and interference'"
Mae.NIH.1 A21

Warrant: The final section is an important place to conclude one's ideas and repeat the significance of one's research.

Ground: The editor feels like the ending section does not show the importance of the proposal in an exciting way.

Claim: The author and editor "need to talk about this section; need to make a clearer case for "WOW!""

Mae.NIH.1 A22

Warrant: The way this statement is written may come across as being negative to some people, including reviewers.

Ground: The author writes: "While the diversity of this research program has made the PI slow to publish..."

Claim: The author "may want to get an opinion on this [sentence]; [the author] probably need[s] to state a little more positively."
Mae.NIH.1 A23

When a particular passage is exceptionally well written or noteworthy, it is important to highlight it to make reviewers aware of it, as well.

The author believes that a particular section in the author's work is "Very good."

The author "should probably highlight it [the section] in some way."

Mae.NIH.2

Mae.NIH.2 A1.1

Warrant 1.1

There are writing features that make it easier for reviewers to quickly review proposals.

Warrant 1.2

Reviewers have many proposals to read; therefore, they want to get through each proposal as quickly as they can.

"Reviewers could read this [proposal] more quickly with some changes that apply to any closely written text."

Ground 1

Use parentheses to enclose one or more words; format key figure letters in bold; don't bold key sentences within a text block; in figure text, place the key letters prior to the related text

Claim 1
Mae.NIH.2 A1.2

Warrant 2
When parentheses are "used for numerals or single letters, especially in text blocks, they detract from readability by increasing clutter."

The author uses parentheses to enclose letters and single letters.

Ground 2

The author should only use parentheses to enclose one or more words.

Claim 2

Mae.NIH.2 A1.3

Warrant 3
Using parentheses to set off figure labels decrease readability.

The author uses parentheses to set off figure labels from the text around them; e.g., (a)

Ground 3

The author "format key figure letters in bold," e.g., b.

Claim 3
Mae.NIH 2 A1.4

**Ground 4**

In figure text, the author places key letters after the related text, e.g., "text... (a), text.... (b)."

**Warrant 4**

Placing key letters after the text makes it difficult for readers to know where to look when they're reading.

**Claim 4**

The author should "place the key letters prior to the related text," e.g., "(a) text..., (b) text..."

---

Mae.NIH.2 A2

**Ground**

The author uses the terms "vibratory groups" and "vibratory sample groups" interchangeably.

**Warrant**

Using different terms to name the same object/idea could lead to reviewer confusion.

**Claim**

The author should "use the same term consistently throughout" and "Also, use the plural consistently."
Mae.NIH.2 A3.1

Warrant 1.1

At times, authors become angry when editors make changes throughout the document without their approval. It is important for the author to write consistently throughout the proposal to avoid reviewer confusion.

If the author accepts the .3" indents

The author should make all indents .3" throughout the document.

Modal

Claim 1

The author doesn’t want to use .3" margins.

Rebuttal

The author should ignore the editor’s suggestion and leave the indents alone.

Ground 2

The author does not accept the .3" indents.

A3.2

Warrant 2

The author does not agree that it is necessary to change the indents.

Ground 1

The editor changed the paragraph indentation to .3" but has to have the author’s approval to change them all.

Mae.NIH.2 A4

Warrant

It is important for the author to follow all formatting guidelines.

Ground Unclear

The author should “check period usage with citations”

Ground

Claim
**Appendix B**

---

**Mae.NIH 2 A5**

**Ground**

The author writes: "These data demonstrate that **vibration reproducibly promotes a tissue-specific pattern of matrix expression** consistent with the composition of the native vocal fold SLIIP, including significant **upregulation of antifibrotic glycosaminoglycans/proteoglycans** and significant **downregulation of collagen expression and synthesis.**"

**Warrant**

Too much bolding makes it difficult text more difficult to read and is not as effective at highlighting important terms.

**Claim**

There is "still too much bolding, esp. on this line." The author should only bold the most important words in the passage and unbold all of the rest.

---

**Mae.NIH.2 A6**

**Ground**

In the text, the author writes "Figure 2A" and under the figure writes "Figure 2. A."

**Warrant**

It is important for the author write consistently throughout the proposal to avoid reviewer confusion.

**Claim**

The author should accept the editors change in which she "removed a period and space in the title of the figure" to make the figure title in the text and under the figure consistent.
Mae.NIH.2 A7

Warrant

"Period usage is inconsistent in [the] text under figures."

Ground

It is important for the author write consistently throughout the proposal to avoid reviewer confusion.

Claim

The author should use periods consistently throughout the proposal.

Mae.NIH.2 A8

Warrant 1.1

Spaces around "/ " make it more difficult to read quickly.

Warrant 1.2

Reviewers have many proposals to read; therefore, they want to get through each proposal as quickly as they can.

Ground

The author writes: "\( \pi=4 \) / group"

Claim

The author should remove the spaces around the dash and write "\( \pi=4 \) / group."
The arguments and reasoning for Mae.NIH2 A10 are the same as those in Mae.NIH A1 except that they are applied to figures.
Mae.NIH.2 A11.1

Warrant 1

The author writes "type 1 collagen were relatively insensitive to vibratory stimulation...".

Ground 1

Unless the author can explain the connection between a relationship he/she presents, he/she should not include that relationship because it may lead to reviewer confusion.

Claim 1

The author should delete "relatively" from this sentence.

"Is relatively necessary?"

Rebuttal

A11.2

Warrant 2

"Relatively" is essential to the sentence's meaning.

Ground 2

Showing what type 1 collagen's sensitivity is related to will increase the reviewers' understanding of this fact's importance.

Claim 2

The author should explain what the type 1 collagen's sensitivity is relative to.
Mae.NIH.2 A12.1

Warrant 1

The author writes: "Interestingly, expression levels of all 6 genes..."

Ground 1

"Better not to use this word [interestingly] unless [the author] can explain the claim."

Claim 1

The author should not use "interestingly" in the proposal.

A12.2

Warrant 2

Because the author should not use "interestingly" he/she may want to have an alternative word to use.

Ground 2

"Notably" is a better alternative to "interestingly."

Rebuttal

The author should write: "Notably, expression levels of all 6 genes..."

Claim 2

Mae.NIH.2 A14

Warrant

No comma is needed between adjectives that cannot be interchanged

Ground

The author writes: "chronic, excessive vocalization..."

Claim

The author should delete the comma and write "chronic excessive vocalization..."
Mae.NIH.2 A16

Warrant

It is important for the author write consistently throughout the proposal to avoid reviewer confusion.

Ground

The author includes a list in Figure 7 that includes eight entries, seven of which are capitalized, one of which ("fibromodulin") is not.

Claim

The author should "change Fig. 7 so that fibromodulin is capitalized (to parallel the rest of the list)"

Mae.NIH.2 A17

Warrant 1

In this sentence, a "comma alone is incorrect."

Warrant 1.2

To combine two complete sentences, one must either do so with a semi-colon or with a comma/conjunction

Ground

The author writes: "Vibratory duration will reflect the total 'on' time of stimulation, the 2 sec on / 2 sec off..."

Claim

The author should "change Fig. 7 so that fibromodulin is capitalized (to parallel the rest of the list)"
In proposal writing, it is especially important to establish the importance of one's work at the beginning of the proposal (i.e., in the introduction).

The author includes two sentences that "succinctly describe some of what [the author wants] to say in the intro" in the "Rationale and Experimental Design" section.

The author should include information from these two sentences in the introduction.

---

Warrant 1.1

"With the revised bolding, the sentence can be read more easily and more quickly."

Warrant 1.2

"Reviewers don't want to read every word" of a proposal."

Warrant 1.3

"Any reviewer with a PhD will not need to read every word."

The author's original sentence with all its bolding is difficult to read.

The author should accept the revised bolding in this sentence.
Mae.NIH.2 A21

The sentence is ungrammatical without the a definite article or a comma.

Warrant 1.1

A definite article (the) would point the specific discussion in Aim 1. Adding a comma would make “investigated in: Aim 1” a adjunct, which is grammatically correct in this case.

Warrant 1.2

The author writes: “...may be partially attributable to increased MMP(decreased TIMP expression investigated in Aim 1.”

Ground

The author should either write “...may be attributable to the increased MMP(decreased TIMP investigated in Aim 1.” or “...may be attributable to increased MMP(decreased TIMP, investigated in Aim 1.”

Claim

Mae.NIH.2 A23

“The flowchart is not experimental.”

Warrant 1.1

The flowchart is an illustration for an experiment but is not experimental in itself.

Warrant 1.2

The author writes: “An experimental flowchart is shown...”

Ground

The author should write “An experiment flowchart is shown...”

Claim
Mae.NIH.2 A24.1

Warrant 1.1

The editor "can't find [Picogreen] on the web."

Because the majority of chemicals are on the Internet somewhere, if one cannot be found on the web, it is probable that it is misspelled.

Ground 1

The author writes: "DNA content will be measured using the *Picogreen* dsDNA binding dye."

Claim 1

Is this name correct?

Warrant 1.2

The author should correct the misspelled word.

A24.2

Warrant 2

The editor’s concern was not correct

If the name is spelled correctly.

Ground 2

The author should ignore the editor’s question and leave the spelling as it is

Claim 2
Mae.NIH.2 A25.1

Warrant 1

The author is inconsistently formats the figures throughout the proposal.

Ground 1

It is important for the author write consistently throughout the proposal to avoid reviewer confusion.

Claim 1

The editor should paste the regularizing changes into the final version of the proposal

If the author approves of the changes

Rebuttal

A25.2

Warrant 2

The author did not feel as though the editor’s changes improved the document.

Ground 2

The author does not approve of the changes.

Claim 2

The author should ignore the editor’s comment and suggestion
**Mae.NIH.2 A26**

**Warrant 1.1**
"is correct, not "

**Stated**

*In academic American writing, a set of double quotation marks is used to emphasize particular words in a sentence*

**Warrant 1.2**

**Unstated**

The author writes: ...may result from a "late" wave...

**Ground**

The author should write: ...may result from a "late" wave...

**Claim**

*In this ground, warrant, and claim, the initial quotation marks signaling what the author wrote had to be removed because of the nature of the comment.*

---

**Mae.NIH.2 A27**

**Warrant**

"'From' carries the meaning; don't need 'instead"

**The author writes:** "...may result from ...transcriptional repressors or **instead** from a loss..."

**Ground**

**Claim**

The author should write: "...may result from...transcriptional repressors or **from** a loss..."
Mae.NIH.2 A29

Warrant 1.1
"Vibratory" is used in the Aims, and...was the usage chosen for the... It is important for the author write consistently throughout the proposal to avoid reviewer confusion.

Warrant 1.2
The author writes: "...that have not yet been associated with vibration response."

Ground

The author should write "...that have not yet been associated with vibratory response."

Claim

Mae.NIH.2 A30

Warrant
It is important for the author write consistently throughout the proposal to avoid reviewer confusion.

The author inconsistently italicizes "2 sec on / 2 sec off" throughout the proposal.

Ground

The author should make the italicization of "2 sec on / 2 sec off" consistent throughout the proposal.

Claim
Mae.NIH.2 A32.1

Warrant 1

The author writes: "The Co-PI has extensive experience with DNA microarray analysis...and acts as Associate Director of the Medical University of South Carolina Proteogenomics Facility..."

Ground 1

Warrant 2

The author does not believe that mentioning the Co-PI's professor status is important

Ground 2

Claim 1

*Do you [the author] want to say that he's [a] professor of cell biology?

Rebuttal

The author should add that the Co-PI is a professor of cell biology.

Claim 2

The author should ignore the editor's question/suggestion.
Mae.NIH.2 A33.1

Warrant 1

Using the "greater than" symbol (i.e., ">") in anything other than mathematic equations may confuse reviewers.

The author writes: "...involving > 1387 DNA microarrays..."

Ground 1

Claim 1

The author should not use the "greater than" symbol but should write "...involving more than 1387 DNA microarrays..."

Unless the "greater than" symbol has some special meaning in this sentence

A33.3

Warrant 2

The editor was unaware of the "greater than" symbol's special meaning in this case.

The "greater than" symbol does have a special meaning in this sentence.

Ground 2

Rebuttal

The author should ignore the editor's suggestion.

Claim 2
Mae.NIH.2 A34

"Periods always go inside quotation marks."

The author writes: ...containing the pathway term "TGF_Beta_Signaling_Pathway".

The author should write ...containing the pathway term "TGF_Beta_Signaling_Pathway."

*In this ground and claim, the initial quotation marks signaling what the author wrote had to be removed because of the nature of the comment.*

Mae.NIH.2 A35

It is "visually easier to follow the series if the numeral are not underlined."

The author underlines the numerals in the subtitles of the text: "1.2. Identification of differentially expressed genes."

The author should not underline the numerals in the subtitles and write "1.2. Identification of differentially expressed genes."
Mae.NIH.2 A36

**Warrant 1**

Forgetting numbered sections in a proposal is an obvious indicator of missing information.

**Warrant 1.2**

Missing information will signal inadequate research planning and design, which negatively affects reviewers’ perception of a proposal.

**Ground**

The author starts the list of subtitles for section 1 with 1.2.

**Claims**

The author needs to include sections 1 and 1.1.

Mae.NIH.2 A37

**Warrant**

"The second set of parentheses should be "[ ]:"

**Ground**

The author writes: "[SAM; (Bolstad, Irizarry et al. 2003; Irizarry, Bolstad et al)]..."

**Claim**

The author should write "[SAM; (Bolstad, Irizarry et al. 2003; Irizarry, Bolstad et al)]..."
Mae.NIH.2 A38

Warrant
Coherence is important in writing so one's reader can easily follow what one is trying to convey.

Ground
The author's sentences do not transition well at the beginning of section 1.2 (i.e., they are not coherent).

Claim
The author needs "better coherence" at the beginning of section 1.2.

Mae.NIH.2 A39

Warrant 1.1
"This sentence needs a verb."

Warrant 1.2
When one uses an "if" phrase, they need a subject and verb within the phrase.

Ground
The author writes: "Data will be evaluated to determine if apparent trends in expression of genes encoding fibrous matrix..."

Claim
The author needs to add a verb to the sentence in order for it to be grammatical and make sense.
Mae.AHA A2

Warrant

The author seems to be inconsistent with indentations at the beginning of paragraphs.

Ground

It is important for the author to write consistently throughout the proposal to avoid reviewer confusion.

Claim

The author "should check indentations at the beginning of paragraphs."

Mae.AHA A3

Warrant

The author uses both PLA and polyactic acid nanoparticles on page 5, but polyactic acid is not used again.

Ground

If the author never mentions a word that he/she makes an abbreviation for again, there is no need for the author to make an abbreviation for that word.

Claim

The author should not mention "PLA" in the proposal but should just say "polyactic acid nanoparticles" for the one instance of it being mentioned.
Mae.AHA A4

Warrant 1

Sometimes editors inadvertently make changes that alter the author’s meaning.

Ground

The editor revised the author's text but is unsure if the author will be okay with the revision.

Claim

The author should "check to see if the revision is OK with" him/her.

Mae.AHA A5

Warrant

Using only Arabic numerals and one parenthesis makes the "numbered text is easier for the eye to find when, for example, a reviewer scans the page."

Ground

The author writes: "(i) a herparin-modified..., (ii) a cationic...".

Stated

The author should "use Arabic numerals and only one parenthesis for this list: "i) a herparin-modified..., ii) a cationic..."."
Mae.AHA A6

Warrant

Coherence is important in writing so one’s reader can easily follow what one is trying to convey.

Ground

The editor feels like the author’s writing is not very coherent at the beginning of a particular paragraph.

Claim

The author should revise the first few sentences of this particular paragraph to improve their coherence.

Mae.AHA A7

Warrant

Coherence is important in writing so one’s reader can easily follow what one is trying to convey.

Ground

The editor feels like the author’s writing is not very coherent at the beginning of a particular paragraph.

Claim

The author should “check this [particular] transition and the following paragraph for coherence” and revise accordingly.
Mae.AHA A8

Warrant

Text of a similar subject matter should be kept together to add to the coherence of the text and to avoid reviewer confusion.

Ground

The author separates text of a similar subject matter in a section of the proposal.

Claim

The author should move the "text to be near similar text, above."

Mae.AHA A9.1

Warrant 1

The author wants to make the claims in his/her proposal as strong as possible without over-exaggerating their importance.

Ground 1

The editor strengthens one of the author's claims.

Claim 1

The author use the strengthened claim instead of the weaker claim.

Is this strengthened claim OK?

Rebuttal

The editor made the claim too strong.

Ground 2

The strengthened claim is not okay and changes the author's meaning too much.

Claim 2

The author should keep the claim as it was and ignore the editor's revision.
Mae.AHA A10

Warrant 1.1
"Many people write previous studied, but it's usually redundant."

Warrant 1.2
In most writing, redundancy should be avoided because it becomes tedious to read.

The author writes: "We previously studied the interactions..."

Ground

Claim
The author should avoid being redundant and write "We studied the interactions..."

Mae.AHA A11

Warrant 1.1
"Reviewers will still see the unbolded words."

Warrant 1.2
Too many bolded words makes it difficult for reviewers to read a proposal quickly.

The author writes: "...demonstrated that proteins covalently attached to small latex nanoparticles retain their native-like structure and are able to interact with their substrates and ligands without significant loss..."

Ground

Claim
The author should reduce the number of bolded words and write "...demonstrated that proteins covalently attached to small latex nanoparticles retain their native-like structure and are able to interact with their substrates and ligands without significant loss..."
Mae.AHA A12

"Parentheses can sometimes make text more readable than the use of several commas, esp. when terms are lengthy."

The author writes: "Henn-egg lysozyme was covalently attached to...nanoparticles: positively charged, containing aliphatic amine surface groups, and negatively charged, containing sulfate and chloromethyl surface groups."

The editor thinks...

Mae.AHA A14

Sometimes editors inadvertently make changes that alter the author's meaning.

The editor reworded the author's text and is unsure if she changed the text's meaning.

The author should "check [the] meaning" of this sentence to make sure that the text's meaning is not changed.
Mae.AHA A15

Warrant

Sometimes editors inadvertently make changes that alter the author’s meaning.

Ground

The author writes: "...four times more potent than free t-PA..." and the editor changes it to "...four times more potent than in free t-PA..."

Claim

The author needs to "check [the] wording" to make sure that the addition of "in" did not change the author’s meaning.

Mae.AHA A17

Warrant

"Don't need a hyphen after an 'y' word."

Ground

The author writes: "...needed for the creation of highly-effective biomedical devices..."

Claim

The author should write: "...needed for the creation of *highly effective* biomedical devices."
Mae.AHA A18

Warrant 1.1: "Don't need a hyphen if the word [being] modified comes before the modifiers."

Warrant 1.2: "There are not words following the modifiers, so we can't be confused about which words go together."

The author writes: "...was justified by its time- and cost-efficiency."

Ground

The author should write: "...needed for the creation of highly effective biomedical devices."

Claim

Mae.AHA A19

Warrant 1.1: "'Preferential' means 'to show preference.'"

Warrant 1.2: In this case, "preferential" is the wrong word.

The author writes: "...conjugates (hydrogels) is preferential because the former..."

Ground

The author should write: "...conjugates (hydrogels) is preferred because the former..."

Claim
Mae.AHA A20

**Warrant**

Sometimes editors inadvertently make changes that alter the author's meaning.

**Ground**

The editor changes "alternative routes" to "an alternative route" but is unsure if the pluralization is okay.

**Claim**

The author should check the pluralization of these words to ensure that the editor did not introduce an error.

---

Mae.AHA A21

**Warrant 1.1**

The "term is not used again in this text."

**Warrant 1.2**

Because the term is not repeated again in the proposal, there is no need for the author to abbreviate it because the purpose of an abbreviation is to eliminate the need for authors to keep spelling out long names.

**Ground**

The author writes: "...by atomic force microscopy (AFM)..."

**Claim**

The author should delete the abbreviation and write "...by atomic force microscopy..."
Mae.AHA A23

Warrant

"In the figure [Figure 4], terms used in descriptions 1, 2, and 3 are inconsistently capitalized."

Ground

The author should capitalize "only the first word in each phrase" of Figure 4.

Claim

Mae.AHA A24

Warrant

In proper English, one would write "an amount" of a substance or a "number" of samples.

Ground

The author writes: "After treatment with Tween 20, small amount of samples..."

Claim

The author should write: "After treatment with Tween 20, a small number of samples..." and then make sure the text's meaning is still intact.
Mae.AHA A26.1

**Warrant 1.1**
The author wants to make the claims in his/her proposal as strong as possible without over-exaggerating their importance.

**Warrant 1.2**
The author should "place 'future' immediately before 'development'" (in "This fundamental knowledge will be a springboard for development of therapeutic systems...").

**If the claim is too strong as revised**

**Modal**

**Claim 1**
The claim is not too strong as revised

**Rebuttal**
The author can ignore the editor's concern and keep the sentence as it was revised.

**Claim 2**

**Ground 1**
The editor strengthened one of the author's claims but is unsure if the change made the claim too strong.

**A26.2**

**Warrant 2**
The editor's concern was unnecessary in this case.

**Ground 2**
The author does not think that the revised claim is too strong.

Mae.AHA A27

**Warrant 1.1**
Editor is unsure "why the alternative is more efficient."

**Warrant 1.2**
This sentence "makes it sound like this [the alternative approach] should have been the primary design."

**Warrant 1.3**
Reviewers may make negative assumptions as to why the author chose not to pursue the alternative approach.

**Ground**
The author writes: "In a more efficient design, we propose to use..."

**Claim**
The author should check the reworded section to ensure that the meaning was not changed.
Benson.DARPA

Benson.DARPA A1

**Warrant**

In proposal writing, authors need to clearly explain their research's goal and how that goal is beneficial.

**Ground**

The author wrote: "This project will bridge the gap, creating security and trust mechanisms that are data-centric and integrating them into widely used data-centric sensor network design tools."

**Claim**

The author needs to explain what the overall purpose of the security and trust mechanisms is.

Benson.DARPA A2

**Warrant 1.1**

NSF/NIH standard workbooks suggest using the author/year, e.g., Brooks et al., 2004, citation strategy

**Warrant 1.2**

The author's primary and secondary reviewers will be close enough to his work to recognize citations presented first as author/year.

**Warrant 1.3**

Current citation strategy forces reviewers to "flip" to the citation section and look. It's not really "reviewer friendly".

**Warrant 1.4**

Reviewers have many proposals to sift through, so it is in the author's best interest to make reading his proposal as easy as possible.

**Ground**

The author writes: "...power of symmetric key approaches [Ca00]..."

**Claim**

The author should use the author/year citation method.
Benson.DARPA A3.1

Warrant 1.1
In this sentence, the word "naive" can mean either "simple" or "not previously subjected to experiments."

Warrant 1.2
The word "naive" is usually associated with people, emotions, etc.

Warrant 1.3
It is important to avoid ambiguity in proposals and be as clear as possible.

The author writes: "This implies that a naive mapping..."

Ground 1

If the author means "simple."

Claim 1

If the author did not mean "simple."

Rebuttal

The author did intend for "naive" to mean "simple" in the sentence.

Ground 2

The editor misunderstood the author's meaning

A3.2

Benson.DARPA A4

Warrant 1.1
Pronouns without referents make it difficult to distinguish what an author's writing is about.

In proposal writing, authors need make sure that reviewers are always aware of what they are talking about.

The author writes: "To support this, the Directed Diffusion Routing..."

Ground

Might

The author should explain what "this" is, i.e.; include the pronoun's referent.

Modal

Claim
**Benson.DARPA A5**

**Warrant**

The author writes: “As long as we are above the percolation threshold...”

**Unstated**

The author used the wrong pronoun, “we,” when referring to an object “the system.”

**Claim**

The author should not use a pronoun but should write “As long as the system is above the...”

**Benson.DARPA A6**

**Warrant 1.1**

Starting a sentence with the word “this” always leads a reviewer to ask what the “this” is.

**Warrant 1.2**

Because reviewers have to read proposals quickly, the author should eliminate ambiguity as much as possible.

**Claim**

The author writes: “This shows that we do not have...”

**Ground**

The author should “try to avoid the pronoun ‘this’ when starting a sentence.”
**Benson.DARPA A7**

**Warrant 1.1**

"In harm's way" is cliche.

**Warrant 1.2**

Cliche phrases should be avoided in scientific writing because they do not precisely convey meaning.

The author writes: "Military sensor networks place nodes in harm's way..."

Ground

The author should eliminate the cliche and write: "Military sensor networks place nodes in adverse combat conditions..."

Claim

**Benson.DARPA A8**

**Warrant**

"Whether or not" is a weak phrase.

The author writes: "It is not clear whether or not elliptic curve approaches require less energy."

Ground

The author should not use "whether or not" but should write: "It is not clear if elliptic curve..."

Claim
Benson.DARPA A9

**Warrant 1.1**
The way the author has the sentence written, it is difficult to determine if current applications automatically add their own security attributes for an API or if a developer needs to.

**Warrant 1.2**
So reviewers do not get confused, the author needs to make his points as clearly as possible.

**Ground**
The author writes: "To work securely, current applications need only add relevant security attributes to their publish and subscribe API calls."

**Claim**
The author should make it clear current applications automatically add the security attributes or if a developer needs to be involved.

---

Benson.DARPA A10

**Warrant 1.1**
"It is best to be gender neutral."

**Warrant 1.2**
For today's scientific writing, it is politically correct to be gender neutral to avoid implying inequality among men and women.

**Ground**
The author writes: "(S)he can enter false information..."

**Claim**
The author should should write "They can enter false information..."
Benson.DARPA A11

Warrant

"Looks like this sentence detailing a simple approach to key assignment works best as a segueway into a more sophisticated approach."

Ground

The author writes: "When applications require overlapping many-to-many mappings, the use of a single key on both ends may not be possible. Minimizing the number of keys that need to be stored on nodes and the number... [new paragraph] A naive approach assigns keys to large classes of data, but with potential security ramifications."

Claim

The author should write "When applications...may not be possible. A naive approach assigns...ramifications. Therefore, minimizing the number of keys to be stored on nodes as well as the number..."

---

Benson.DARPA A12

Warrant

"Chicago Manual plural for edited by is eds."

Ground

The author writes: "S.S. Iyengar and R. R. Brooks, ed.'s..."

Claim

The author should write: "S.S. Iyengar and R. R. Brooks, eds."
Benson.DARPA A13

Warrant

It is important to have consistent formatting throughout a document.

Ground

In his Curriculum Vita, the author had a hanging on the first entry of his "Professional Employment" section, but not on the other entries.

Claim

The editor "retabulated [author's] employment info."

Benson.MEM

Benson.MEM A1

Warrant 1.1

The editor does not "think this sentence is necessary since [the author] is dealing primarily with medical units."

Warrant 1.2

The other "research [the author] cited is adequate."

Ground

The author writes: "There are several papers that determine how many fire engines to dispatch to call."

Claim

The author should check the reworded section to ensure that the meaning was not changed.
Benson.MEM A2

The editor changed a particular sentence because it "needed clarity" but is unsure if the revised sentence is "technically correct."

Warrant

Sometimes editors inadvertently make changes that alter the author's meaning.

Ground

The author should check this revised sentence to make sure that its technical meaning was not changed.

Claim

Benson.MEM A3

The editor is unsure about the difference between "fire engines" and "fire trucks."

(Editor: "What's the dif?")

Warrant 1.1

Like the editor, most layman and probably some reviewers would be unaware of the difference between these two terms as well.

Warrant 1.2

The author writes: "...the number of calls that can be serviced by both fire engines and fire trucks."

Ground

The author should explain the difference between "fire engines" and "fire trucks."

Claim
Benson.MEM A4

Warrant 1.1
It is not clear who undertook this "data mining effort." (Editor: "by whom?")

Warrant 1.2
It "may be good to say" who undertook this data collection.

Warrant 1.3
Adding the name of who did this data collection could increase the credibility of the proposal, especially if the person is well-known in this field.

The author writes: "A massive data mining effort was performed to obtain realistic values for models..., which was performed as an Honors Summer Undergraduate Research Project at Virginia Commonwealth University."

Ground

The author should include who undertook this data collection endeavor.

Claim
Benson.MEM A5.1

Warrant 1.1
"The original was unclear."

Warrant 1.2
Sometimes editors inadvertently make changes that alter the author’s meaning.

Ground 1
The editor revised a particular sentence in the author’s proposal but is unsure if the revision changed the text’s meaning.

Claim 1
The author should check the reworded section to ensure that the meaning was not changed.

A5.2

Warrant 2.1
This sentence is unclear.

Warrant 2.2
The editor finds it difficult to determine if “first responder” and “unit” are the same thing or not.

Warrant 2.3
If the editor is confused with this sentence, reviewers may also become confused.

Ground 2
The author writes: “Thus, the reward is obtained once a unit is dispatched, but only after the first responder arrives to the scene.”

Claim 2
The author should write: “Thus though a unit is dispatched, the reward is obtained only after it arrives on the scene.”

A5.3

Warrant 3
The editor does not clearly understand what the author is trying to say.

Claim 3
"First responder” and “unit” are not the same thing.

Rebuttal
"Are first responder and unit the same thing?"

Claim 3
The author should disregard the editor’s revision but should find a clearer way to convey his/her meaning in this sentence.
Benson.MEM A6.1

**Warrant 1.1**
The new sentence "sounds correct as differing from the other two tasks but wanted the author to see it."

**Warrant 1.2**
Sometimes editors inadvertently make changes that alter the author’s meaning.

**Ground 1**
One of the author’s sentences was "a little vague" so the editor tried to clarify its meaning.

**Claim 1**
The author should check the reworded section to ensure that the meaning was not changed.

A6.2

**Warrant 2**
The editor believes the sentence should be changed "under the supposition that most EMT fixed assets have several ambulances.

**Ground 2**
The author writes: "When the in-district medical unit is busy, then the optimal dispatching policy is used...to determine which medical unit to send."

**Claim 2**
"Can there be more than one unit per district?"

**Rebuttal**
The author should write: "When an in-district medical unit is busy, then the optimal dispatching policy is used...to determine the next available unit to send.

A6.3

**Warrant 3**
The editor does not clearly understand what the author is trying to say, especially because the author "refer[s] to single units more than once."

**Claim 3**
There cannot be more than one unit per district.

**Claim 3**
The author should disregard the editor’s revision and keep the text as it was.
Benson.MEM A7.1

Warrant 1.1

It is best for tasks to be independent of one another because if Tasks 1 and 2 cannot be completed, then the author cannot proceed to Task 3.

Warrant 1.2

Reviewers will be hesitant to fund research if they do not think that a research will be able to finish a project.

The author writes: "They will tackle Task 3 and the extensions jointly based on the results from Tasks 1 & 2."

Ground 1

The author should delete this sentence from the proposal.

"If you have difficulties with [tasks] 1 and 2, is that a showstopper?"

Claim 1

Rebuttal

A7.2

Warrant 2

The editor does not clearly understand the author's research tasks and his/her ability to complete them.

Claim 2

If the author has trouble with tasks 1 and 2, he/she will still be able to complete task 3.

Claim 2

The author should disregard the editor's revision and keep the text as it was.
Benson.CAREER

Benson.CAREER A1.1

Warrant 1.1

*NSF/NIH standard workbooks suggest using the author/year, e.g., Summers, 2004, citation strategy.

Warrant 1.2

The author's primary/secondary reviewers will be close enough to [his/her] work to recognize citations presented as author year.

Warrant 1.3

The current citation method makes it difficult for reviewers to recognize the citations unless they flip to the cited page, which is not user friendly.

The author uses "e.g., [#]" as the citation strategy.

Ground 1

The author should not use the e.g. citation method but should use the author/year method instead.

Claim 1

If this is a citation.

Rebuttal

The editor is unaware of the author's intention with this particular format.

The author did not intend for this to be a citation.

Ground 2

The editor should disregard the editor's comment and keep the text as it was.

Claim 2
Benson.CAREER A3

Warrant 1.1

"Since the author eliminated these items and citations, the editor removed the second mention of Michelin as well."

Keeping in the second mention of Michelin without the first could confuse the reviewers.

Warrant 1.2

The author eliminated "items and citations" related to Michelin from other places in the proposal.

Claim

The author should delete the second mention of Michelin.

Benson.CAREER A4

Warrant

"No colons when introducing a series with a verb."

The author writes: "This information is then used to determine: (1)...(2)...and, (3)."

Claim

The author should write: "This information is then used to determine (1)...(2)...and, (3)."
Benson.CAREER A5

Warrant 1.1

"Always best to refrain from 'if' usage" because "it conveys doubt that you can do what you say you'll do."

Warrant 1.2

"Expected always lets reviewers know you plan to succeed but gives you some 'rhythm' in case you do not."

Ground

The author writes: "This research project takes a different approach that, when successful, will provide a general method..."

Claim

The author should write: "This research project takes a different approach that is expected to provide a general method..."

Benson.CAREER A6

Warrant 1.1

The phrase "rule of thumb" is cliche.

Warrant 1.2

Cliche language is not very precise and may take away from the significance of the author's research.

Ground

The author writes: "The rule of thumb of limiting gear-pair..."

Claim

The author should write: "The parameter of limiting gear pair..." and delete the cliche.
**Benson.CAREER A7**

**Warrant 1.1**
"Might be" are weak words.

**Warrant 1.2**
Weak words may make the reviewers question the author’s ideas and certainty.

**Ground**
The author writes: "Another more efficient and possibly more intuitive approach might be to create..."

**Claim**
The author should write: "Another more efficient and intuitive approach is to create..."

---

**Benson.CAREER A8**

**Warrant**
"In scientific writing, passive voice is de rigueur, but with proposals it’s okay to use ‘We’ when you feel like it."

**Ground**
The author writes: "This metric will be re-enforced with..."

**Claim**
The author should write: "We will reinforce this metric with..."
Appendix B

153
Benson.CAREER A10.1

Warrant 1.1
"Montessori is generally perceived to cater to upscale kids;" so the editor is "Not sure if this section really hits [the author's] underrepresented groups that NSF looks for."

Warrant 1.2
NSF wants reviewers to educate individuals from underrepresented groups.

Ground 1
The author writes: "A new outreach program motivated by the call for more design and technology in elementary grades has been piloted at Clemson Montessori...

A10.2

Warrant 2
The criterion does cover Montessori schools.

Rebuttal
The editor is misguided in what NSF considers underrepresented groups.

Ground 2
The criterion does not cover Montessori schools.

Claim 1
"However, on page 2 of the Broader Impacts Merit Criterion, this might be addressed by the quote 'certain types of academic institutions.'"

Claim 2
The author should do a "rewrite on how this work might be targeted to GIRLS/MINORITIES at Montessori could expand [the author's] represented groups."

The author should disregard the editor's comment and leave the text as it was.
Benson.CAREER A11

**Warrant 1.1**

The editor has read other proposals in which professors actually bring primary and secondary kids out of the school and into a Clemson lab environment.

**Warrant 1.2**

The author has the lab facilities to take the kids to.

**Warrant 1.3**

Bringing children into the lab environment would help the author strengthen the research’s educational impact.

**Ground**

The author discusses his initial work with children from Montessori schools and says how they were extremely enthusiastic about their experiences.

**Claim**

The author should consider bringing primary and secondary children into a Clemson Lab.

---

Benson.CAREER A12

**Warrant 1.1**

“PEER and WISE “definitely work with underrepresented groups,” but the reviewers may not know that.

**Warrant 1.2**

If reviewers do not understand that PEER and WISE work with underrepresented groups, they may miss the significance to the author’s educational impact.

**Ground**

The author writes: “...collaborating with the minority offices and organizations (PEER [78] and WISE [79])...”

**Claim**

The author should explain what PEER and WISE are--in only a line or two.

*PEER: Programs for Educational Enrichment and Retention
WISE: Women In Science and Engineering*
Benson.CAREER A14.2

Ground 2

Warrant 2

"Support in part or in whole is support regardless."

The author writes: "This career proposal will support in whole and in part graduate and undergraduate research students."

Claim 2

The author should explain how the research will support graduate and undergraduate students.

Benson.CAREER A15

Ground 1

Warrant

Citing the "Pasteurs Quadrant" and saying what it agrees with is tautological.

The author writes: "...this CAREER proposal is complemented by practical research, in agreement with the 'Pasteurs Quadrant' [82]."

Claim 1

The author should write: "...this CAREER proposal is complemented by practical research [82]."
# Appendix C

**Gibson Analysis Tables**

Mae.NIH.1—Total word count: 289

<table>
<thead>
<tr>
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<th>Percentage of Total Word Count</th>
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<td>2. Words of 3 syllables or more</td>
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<td>3. 1&lt;sup&gt;st&lt;/sup&gt; and 2&lt;sup&gt;nd&lt;/sup&gt; person pronouns</td>
<td>1&lt;sup&gt;st&lt;/sup&gt;: 9  2&lt;sup&gt;nd&lt;/sup&gt;: 2</td>
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<td>Tough/Sweet</td>
</tr>
<tr>
<td>4. Subjects: neuter vs. people</td>
<td>Neuter: 18  People: 27</td>
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<td>Tough/Sweet</td>
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<tr>
<td>5. Finite verbs</td>
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<td>Tough/Sweet</td>
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<td>6. To be forms as finite verbs</td>
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<td>7. Passives</td>
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<td>14. The</td>
<td>15</td>
<td>5.2</td>
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<td>15. Contraction and Fragments</td>
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**Sweet:** 14  

**Tough:** 7  

**Stuffy:** 2
### Mae.NIH2—Total word count: 556

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<td></td>
<td>2nd: 7</td>
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<td>4. Subjects: neuter vs. people</td>
<td>Neuter: 31</td>
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<td>Tough/Sweet</td>
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<td>People: 41</td>
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<td>5. Finite verbs</td>
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<td><strong>Percentage of total finite verb:</strong></td>
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<td>7. Passives</td>
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**Sweet:** 10  
**Tough:** 11  
**Stuffy:** 2
Mae.AHA—Total word count: 306

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Sweet: 11
Tough: 8
Stuffy: 3
Benson.DARPA—Total word count: 205

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<td>4. Subjects: neuter vs. people</td>
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<td>12. Clauses, proportion of total words</td>
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<td>13. “Embedded” words</td>
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<tr>
<td>14. The</td>
<td>6</td>
<td>2.9</td>
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</tr>
<tr>
<td>15. Contractions and Fragments</td>
<td>Contractions: 1, Fragments: 10</td>
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<td>Tough/Sweet</td>
</tr>
<tr>
<td>16. Parentheses, italics, dashes, question marks, exclamation marks</td>
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Sweet: 11
Tough: 8
Stuffy: 3
Benson.MEM—Total word count: 150

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<th>Number of Words for Category</th>
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<tr>
<td>1. Monosyllables</td>
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<td>2. Words of 3 syllables or more</td>
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<td>4. Subjects: neuter vs. people</td>
<td>Neuter: 14</td>
<td>People: 12</td>
<td>Tough/Sweet</td>
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<td>5. Finite verbs</td>
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<td>6. To be forms as finite verbs</td>
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<td>7. Passives</td>
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<td>8. True adjectives</td>
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<td>4.7</td>
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<td>9. Adjectives modified</td>
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<td>10. Noun adjuncts</td>
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<td>4</td>
<td>Sweet/Stuffy</td>
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<td>11. Average length of clauses</td>
<td>5.5 words per clause</td>
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**Sweet:** 10

**Tough:** 10

**Stuffy:** 2
## Benson.CAREER—Total word count: 398

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**Sweet:** 12

**Tough:** 7

**Stuffy:** 2