

chill music

“ Hello listeners and welcome to this segment on rhetorical strategies in writings in the field of Neuroscience and other biological sciences. I’m Alexis, your host for this segment. Today you’ll get to hear from some of the top professors in the field, Dr. Alan Nighorn and Dr. Anna Dornhaus. The focus in this podcast will be on the different rhetorical strategies apparent in different forms of writings in the fields of neuroscience and other biological sciences. Some of these strategies include the audience the works were targeted towards and some of the ways in which the authors articulated their ideas. “

transitional music of some sort

“ To start off the discussion in today’s segment I would like to tell you a little more about the main genres that those in the field of neuroscience predominantly write in. Though there are many types of genres, the ones that I will be focusing on today include scientific research papers and book chapters. Each of these different genres have a certain context for which they are written and each have their own set of conventions to be recognized. These separate things are each important because they allow us to understand better the writings individually and as a whole the way in which writing is approached within the field; whether that is through a purely logical lense or even a more emotional spin to what is being discussed.

transitional music perhaps light guitar

The first genre I would like to analyze rhetorically with you is the research paper. The conventions of the scientific research paper include such things as an abstract before the actual paper begins, detailing the parameters of the scientific research and a plethora of graphs to detail results and multiple sections of writing. For most scientific research papers it’s generally safe to assume that, regarding the rhetorical situation, the author of the papers will be some sort of researcher and generally either a professor or doctor of some profession. And generally the purpose of the work will be to detail a research discovery of some sort, and the audience will be those interested in the project or field the paper is written in.

“However we could discuss the general all day, to get to the more specific we will discuss the paper “Local interneuron diversity in the primary olfactory center of the moth *Manduca sexta*”, the authors of which are Carolina E. Reisenman, Andrew M. Dacks, John G. Hildebrand, for as Dr. Nighorn said “[there is no solo authoring in the field]”. To make a lot of scientific jargon short, this research paper is detailing how difference in the interneurons within the moth’s antennae affect how they process odors. And while it is a super interesting topic, the actual substance of the paper is not what I want to discuss with you, but rather how the information is presented. Scientific research papers depend mostly upon logical appeals, like facts, and ethical appeals, dealing with credibility. Concerning the logical appeals used, specifically to this paper it is the statistics within that give the paper the logic that will attract those in the scientific community.

Such examples within this Reisenman et al. paper include equations such as this one that details the positive number of statistically significant spikes on a graph

“A = mean ISF prestimulation+ (standarddeviation ISF prestimulation × 1.96)”
(Instantaneous spike frequency)

The statistical equations are important for the paper because they show the logic through which the researchers went to collect the results; in doing such things the authors actually contribute to their credibility for writing the paper and having trustworthy results; which brings me to the other appeal most often used in research papers; the ethical one. While logical examples and explanations lend weight to this subject already, a very large part of the ethical appeals in a scientific research paper are the references to credible sources that are either referenced at the end or sprinkled throughout the work. In the paper by Reisenman et al. the sources are throughout and a specific thing that is utilized in this work is giving the sources for objects used throughout the experiment, like in this section where:

Sharp microelectrodes were made from borosilicate glass capillaries with filament on a laser puller

There are citations on both the filament and the laser pull used. For the filament it is referenced as:

(1 mm outer diameter, 0.58 mm internal diameter, Sutter Instruments Co., Novato, CA)

And the laser puller is from:

(P-2000, Sutter Instruments Co., Novato, CA)

These credible sources are important towards ethical appeals because they back up the author's claims and help prove that the findings from this research are true and have repeatable results, which are very important to statistical power and research being accurate.

transition

“Now that you understand better the research paper I would like to turn your attention to the common genre of a book chapter. Surprisingly the chapter for a book may be longer than a research paper, and this has to do with not only the book it is being written for; like a published single book, or something more like a school book but also with how much information is being given. Book chapters are a different rhetorically from research papers in many ways; most often while the book may be authored by many people the, the chapter is a solo-authored venture. Books may have less formal language and unlike research papers, inclusion of personal stories

and humor is usually more accepted. More often than research papers, book chapters will often have more extensive glossaries for the words that are used throughout the work, also making sure to highlight those words in the work to allow the reader to know they will be defined at some point, glossaries are important to make the information being given to have more accessibility. The audiencship for book chapters on neuroscience and other biological sciences , depending on the book, may be more broad than those seeking out a specific research paper. Books may be more general and cover a wide range of the topic and teach the audience, while a research paper seeks to explain one experimental procedures results.

The specific book chapter that I would like to go through with you today is “Finding Food: Foraging Affects All Aspects of an Animal’s Life” by Dr. Anna Dornhaus Already one can observe looking at the chapter that its not the same thing as a research paper, while there is an introduction, there is no abstract detailing the entirety of the paper. As well as that, there is a distinct lessening in the amount of large scientific word utilized, overall, besides the length, the book chapter seems readily accessible to most people. The rhetorical situation for this work is more imperative to our knowledge than the author for a research paper because the book chapter is more personalized in this situation. The author of this work, Anna Dornhaus, is associate professor of the Ecology and Evolutionary Biology at the University of Arizona, so she has credible knowledge on the book chapter she’s writing about animal behaviour and how evolution has allowed animals to foraging productively. As well as just having the required knowledge, Dr. Dornhaus also has a passion for the social insects she is studying+**Quote from her about social insects+**

The rhetorical strategies that I found to be important within this book chapter was the author’s pathos, or emotional appeals. While there is logical and ethical appeals mixed in, a true separation from other scientific writing is the emotional appeals. Specifically within the book chapter we are going through it’s the emotionally compelling narratives provided by the anthropomorphism of a bee in the early part of the chapter, the narrative gives a person almost a sort of relation to the bee, as well as using imagery to make a person intrigued; it goes something like this ____

The bee starts this trip because she is old enough....she picks some blue wildflowers, but they either do not contain nectar or it is too deep for her to reach. After each unsuccessful attempt, she travels a bit further until she can taste the sweet sugary nectar in some yellow flowers on a meadow.

As one can hear this is much more personable than the strict scientific ways of the research paper, and this use of a more emotional appeal is important to the genre to give it a more interesting and less clinical spin, that those who perhaps are not as scientifically passionate maybe able to enjoy and learn.

transition

“Thank you for listening to this segment on the the rhetorical strategies in writings in the field of neuroscience and other biological sciences. I hope that you leave this listening experience a little more edified on writing and full of knowledge that might make you interesting at parties, if you talk about rhetorical analysis at parties I guess.

Enjoy the rest of your time in whatever part of the day you are at more enlightened than you were a few minutes ago.”

end music

plays quietly over references

“Special thanks today to Dr. Alan Nighorn and Dr. Anna Dornhaus for allowing me to interview them for this segment, as well as special thanks to my peer Rhiannon for voicing the quotes in this segment. The works I used today are “Local interneuron diversity in the primary olfactory center of the moth *Manduca sexta*” from Reisenman et al., and “Finding Food: Foraging Affects All Aspects of an Animal’s Life” by Dornhaus.

The music for this segment was provided by _____, the titles of which are _____ and _____.”