Project Script [redacted], [redacted]
BIO295 2 April 2014

1.
Song Structure: Environmentally or Genetically Controlled?

2.
Woodgate, Joseph L., Katherine L. Buchanan, Andrew T. Bennett, Clive K. Catchpole, Roswitha Brighton, and Stefan Leitner. "ENVIRONMENTAL AND GENETIC CONTROL OF BRAIN AND SONG STRUCTURE IN THE ZEBRA FINCH." Evolution 68.1 (2014): 230-240. Web. 6 Mar. 2014. <http://onlinelibrary.wiley.com/doi/10.1111/evo.12261/abstract>.

3.
In "ENVIRONMENTAL AND GENETIC CONTROL OF BRAIN AND SONG STRUCTURE IN THE ZEBRA FINCH" Woodgate et al. determine genetic heritability of song structure among controlled populations of Zebra finch by analyzing heritability of many different genetic factors, including body mass, blood plasma levels, brain mass, and song similarity. The study determined that although heritability of many of these factors were low, song structure seemed to be exempt from selection pressures. This may mean that song determination is more environmental than originally thought.

4.

Sexual selection is the advantage that some individuals have over other individuals at securing mates. A more specific mode of sexual selection is female choice, where females choose the most striking males to mate with. Gene and environment interaction is the effect on phenotypic display that is due to the interactions between genes and the environment. Honest signals are displays or behavior shown that convey useful information about the individual's fitness, such as a male's song.

5.

Song among birds is an adaptation in sexual selection, specifically behavioral selection. The more appealing a bird's song is to the female, the more likely it is to reproduce, which greatly increases the individual's fitness. The heritability of factors that relate to bird song was tested in this paper to see how genetic factors might play a part in determining bird song. It was determined in the study that song was not completely under genetic control, suggesting genetic and environment interactions at work. Competition in the wild between birds with differing songs makes having the best song a stark advantage in any ecosystem. Thus, understanding whether song development is genetic or environmental could help researchers understand the nature of competition in regards to selection. Because of this high competition it is also possible that signal reliability is diminished through the use of dishonest signals, i.e. cheaters display signals that do not reflect their true level of fitness. This could also be an explanation for the lack of correlation between genetics and song in these birds.

6.

Project Script [redacted], [redacted]
BIO295 2 April 2014

The movie will be a straight forward explanation of the paper and filmed in the museum of natural sciences. Interesting examples of the concepts will be used to make a documentary which can explain in depth the roles of sexual selection and competition in relation to fitness, and how bird song can affect both of these. Living and dead examples of birds will be used to illustrate concepts and there may interviews with some of the staff.

Project Script [redacted], [redacted]
BIO295 2 April 2014

FEEDBACK FROM INSTRUCTOR:

Hi [redacted] & [redacted],

You did an excellent job on the **movie**. You included all elements I asked for and satisfied the criteria indicated in the rubric. You earned full credit for your movie.

I really liked your movie, it looked clean and professional. Well done!

A few things I noted:
When you presented the methods it was not clear to me why there were four squares (and not more or just two). Also, towards the end when you recap, it might have been good to switch the background screen to some key words appearing to reinforce what you're saying.

But as I said, overall very well done!

Here's what your peers said about your movie:

- *Definitely set the bar high!*
- *Love the format of the movie*
- *Very easy to follow and great movie overall! Very good graphics and fun to watch*
- *Great voiceover, background tweets were cool*

Overall, you did a very good job on the **final script**. You included most of the elements I asked for and satisfied most of the criteria indicated in the rubric. You earned 60 out of 75 points.

Here are some comments:

- The summary of your paper is very short, and you're not mentioning any details on the methods used. (-1 pt)
- Your theory concepts are very short, I required 100-200 words PER concept (see rubric), your entire section consists of 76 words. This word limit was an indication of the level of detail I was expecting. (-6 pts)
- Your movie description is not what you did in your movie, it seems to be an outdated version from your draft script. (-8 pts)

Best,
D. Magdalena Sorger