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Project 3

Project Overview:

I used Project Gutenberg to pull the text of Macbeth and Midsummernight's dream, and then used Markov analysis to create a mashup of the two, making it the greatest comedic tragedy ever made.

Implementation:

The first step is pulling down the raw text, which is done by a script called 'fetchdata'. This script then pickles the data so I do not make the same call to Project Gutenberg over and over. It is commented out in the overall script, but can be uncommented for a one-time fetch.

The next step is done by a function called 'cleandata', which removes the header and footer that come with the text by searching for the keywords "ACT I" from the beginning of the text and "THE END" from the end of the text. It stops when it sees them, so it does not create false hits. This works for plays only, and would need to be changed to work with other texts. It then clears out all newline and tab characters before turning the string into a list of words.

The function named 'analyzer' can be run on any word list to create a markov analysis dictionary. In my case, I run it on both texts strung together, because I know I will be combining them anyway. Analyzer performs the actual markov analysis, storing a dictionary that will be used later. The dictionary itself is keyed with word pairs (tuples), and the returns are themselves dictionaries, keyed with possible suffixes and returning the frequency that those suffixes appear. This allows me to select suffixes based on frequency of appearance, and seemed at first to be a useful feature. However, when I actually looked at the dictionary, I realized that a single suffix rarely appeared more than a few times. Shakespearean lines are so unique that the same turn of phrase is rare. With this in mind, accounting for suffix frequency in my generation would only serve to increase boring, common, simple phrases like "I am a", so I left it out.

The final step is to create the text. For this I simply choose a random key from the dictionary and start building a list of words, each one a random possible suffix to the two behind it. This function takes as an argument a defined length and returns a string of that length.

Results:

This program does produce some very silly Shakespeare. However, it seems that Shakespeare itself was something of a poor choice, since each line is so unique that Markov analysis is heavily handicapped. Many tuples have only one possible suffix, meaning that sometimes entire lines are 'randomly' generated that are just the original text. Most often, two lines are spliced together somewhere that sort of makes sense.

The best Markov analysis examples are where text is generated that is not remotely to be found in the original work, yet seems familiar. My code does this sometimes, but mostly just joins a few existing sentences together. Shakespeare is just too short and not homogeneous enough to work properly.

Excerpt from Macbethsummernight's Dream:

MENTEITH. Who then shall blame His pester'd senses to recoil and start, When all that love is more strange Than such a word. Come, trusty sword; Come, blade, my breast imbrue. [Stabs herself] And farewell, friends; Thus Thisby ends; Adieu, adieu, adieu. [Dies]

THESEUS. Moonshine and Lion are left to bury the dead.

DEMETRIUS. Ay, and wisely too, For 'twould have anger'd any heart alive To hear the men deny't. So that, I say, a moving grove.

MACBETH. If thou couldst, doctor, cast The water of my violent love Outrun the pauser reason. Here lay Duncan, His silver skin laced with his

TRAIN, and TITANIA, at another, with hers

OBERON. Ill met by moonlight, proud Titania.

TITANIA. What, wilt thou do for father?

SON. If he come not, then the moon, like to a fairer death. And so I do wish it, love it, long for it, And will to-morrow midnight solemnly Dance in Duke Theseus' house triumphantly, And bless it to all fair prosperity. There shall the lovers wend With league whose date till death shall never vanquish'd be until Great Birnam Wood Shall we their fond pageant see? Lord, what fools these mortals be!

OBERON. Stand aside. The noise they make Will cause Demetrius to awake.

PUCK. Then fate o'er-rules, that, one man refus'd Should of another therefore be abus'd! Exit

LYSANDER. She hath spied him already with those that know All mortal consequences have pronounced me thus: "Fear not, Macbeth; no man can tell what. Methought I was with Hercules and Cadmus once When in a gossip's bowl In very likeness of a fenny snake, In the poison'd entrails throw. Toad, that under cold stone Days and nights has thirty-one Swelter'd venom sleeping got, Boil thou first i' the second chamber?

LADY MACBETH. Now.

MACBETH. As I descended?

LADY MACBETH. Almost at odds with morning, which is not enough to wrap a fairy song; Then, for the ear. The time has been, That, when the players are all the play treats on; then read the names of the broil As thou art beautiful.

BOTTOM. Not a mouse Shall disturb this hallowed house. I am sure you hate me with this answer."

LENNOX. And that I'll spend for him.

SIWARD. He's worth more sorrow, And that well might Advise him to a caution, to hold what distance His wisdom can provide. Some holy angel Fly to the everlasting bonfire. [Knocking within.] I hear knocking At the south entry. Retire we to our harm, The instruments of darkness tell us truths, Win us with your royal preparation Makes us hear something.

MACBETH. Bring them before us. Fair and noble hostess, We are coming thither. Gracious England hath Lent us good Siward and ten thousand warlike men Already at a dismal treatise rouse and stir As life were in't. I have not seen.

BANQUO. How goes the night, imagining some fear, How easy is it else the law upon his promise. Please't your Highness will see first. [Giving a paper]

THESEUS. 'The battle with the time, As calling home our exiled friends abroad That fled the snares of watchful tyranny, Producing forth the cruel ministers Of this discourse we more will hear that play; For never anything can be wise, amazed, temperate and furious, Loyal and neutral, in a summer's day; a most dreadful thing; for there is two hard things-that is, to bring the moonlight into a cough; And then end life when I look not like the rugged Russian bear, The arm'd rhinoceros, or the Hyrcan tiger; Take any shape but that, and my pride, If Hermia meant to bathe in reeking wounds, Or memorize another Golgotha, I cannot love you?

HELENA. And Hippolyta.

LYSANDER. And so the lion too. I will be rain tonight.

FIRST MURDERER. Where is Lysander and myself shall meet; And thence it is nothing, But to be blamed. Marry, if he go about to expound this dream. Methought I was- there is not this Our captains, Macbeth and an Attendant. Sirrah, a word of me. His mother was a man, The which no sooner had his prowess confirm'd In the sight Of thy misprision must perforce ensue Some true love turn'd, and not stand to; in conclusion, dumbly have broke off, Not paying me a red-hipp'd humble-bee on the quarry of these trains hath sought to win us to be safely thus. Our fears do make love, Masking the business from the crown to the mercy of wild beasts.

HELENA. The more the man. Nor time nor place Did then adhere, and yet you draw not iron, for my

sake! Durst thou have it; And that same dew which sometime on the buds Was wont to swell like round and orient pearls Stood now within the note of expectation Already are i' the midst. Be large in mirth; anon we'll drink a measure The table round. [Approaches the door.] There's blood upon thy face.

MURDERER. 'Tis Banquo's then.

MACBETH. 'Tis better thee without than he can do.

LYSANDER. If thou lovest me then, Steal forth thy father's house to-morrow night; And in the legions Of horrid hell can come a devil more damn'd In evils to top Macbeth.

MALCOLM. I grant you, friends, if you can. What are they coming.

CAITHNESS. Who knows if Donalbain be with him! Here comes one.

Enter LYSANDER and HELENA LYSANDER. Why should you think that I should Pour the sweet jest up; This sport, well carried, shall be to take what they mistake; And what is mine my love and health to all; Then I'll sit i' the olden time, Ere humane statute purged the gentle weal; Ay, and wisely too, For 'twould have anger'd any heart alive To hear a noise?

LADY MACBETH. Think of this, good peers, But as a sound, While you perform your antic round, That this great clatter, one of you, find out moonshine, find out moonshine.

QUINCE. Yes, it doth impair the seeing sense, It pays the hearing double recompense. Thou art the best wit

-THE END-

Reflection:

I did a much better job unit testing than I have in previous projects. I think that it would have been useful to use a more difficult API; calling for text from Project Gutenberg is so easy that I don't feel like I learned all that much about scraping data. However, performing Markov analysis was very difficult and I feel like I got a lot out of that. I think my results are interesting and some of the silly Shakespeare lines prove that the project works, at least a little bit.