## What is Sentiment Analysis?

Sentiment analysis assigns numerical values of (+1, 0, -1) to words that are agreed to have respectively positive, neutral, or negative sentiment. Analyzing the frequency of these words can be a tool to help facilitate understanding of texts. For this project, sentiment analysis was used to determine intra-textual sentiment difference between the concurrently sung Triplum and Motetus texts of 14th century Motets. In addition, these sentiment scores were compared with the music set to these texts to see if the score was also reflected in the text-painting of the music.

## About the Texts

15 Motets were gathered from the Fauvel Codex, the Chantilly Codex, and the Apt codex. Most of the motets were written by Phillipe de Vitry, yet in addition three motets were written by anonymous composers and one each were written by Jacopo da Bologna and Phillipe Royallart respectively. The motets all touch on a variety of subjects, from the Virgin Mary, nature scenes, admirable and unadmirable princes, and the Holy Trinity. The digitized Latin texts and their English translations were sourced from the La Trobe University Medieval Music Database.

## Reading the Analysis Spreadsheets

The raw sentiment analysis is represented as a spreadsheet for each of the Motets in the study. The left two columns list the words in the Triplum and Motetus with either positive or negative sentiment, and the value they are assigned. Below, the total average and total sum of these sentiment values are presented. At the bottom the distance score is shown which is the absolute value of the difference of the Triplum and Motetus scores. On the right are the original Latin texts and their English translations if they are present.

## Digital Score Facsimile of Phillippe de Vitry - Impudenter circumivi; Virtutibus laudabilis; Alma redemptoris

In addition to solely viewing the text, it is also helpful to look at the original score of a few motets to understand what performance decisions are made. This score originates from the Apt codex. The Digital Image Archive of Medieval Music describes the Apt codex as originating “in the circle of the Papal residence at Avignon during the period of the Great Schism (1377-1417); probably copied at Avignon.” In addition, this codex “contains no secular music and only 4 motets.” Considering *Impudenter circumivi* was marked as the motet with the highest sentiment difference, it is interesting that it has a solely sacred theme. While the Motetus text mostly offers praise to the Virgin Mary, the Triplum focuses primarily on a sinful character, who after lamenting in shame, wishes to be more like the laudable Virgin Mary. The music augments this comparison when the Triplum begins solo with a descending line, highlighting the character’s sense of shame and sin.

## Digital Score Facismile of Annonymous - Inter densas deserti meditans; Imbribus irriguis; Admirabilem est

*Inter densas* was ranked second in terms of Sentiment Difference. Written by an anonymous composer, this motet combines a Triplum describing a Prince worthy of praise with an almost neutral description of a garden. The Triplum tells a story of a prince who appears in the woods and is praised by many facets of the world, such as soldiers, poets, and nature itself. In contrast, the Motetus mostly describes this fantastical garden, also in praising terms, but then warns to not rob the garden of its fruit at the end. Sentiment analysis thus demonstrates that the Triplum mostly has positive sentiment, due to its praise of this prince, and that the Motetus has an overall neutral sentiment, while the garden is praised, the singer scorns anybody who wishes to rob the garden. The music represents these sentiments with the Triplum melody rising overtop the Motetus and almost nearly unconflicted with the Motetus text. Thus, the music supports the primary goal of this motet being to praise the prince, and the description of the garden comes off more as secondary.