The Development of Polarity Subjunctive

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Contents

1. Introduction

This file shows the code used to analyze the data that appears in Chapter 6 Section 6.1.2 of the thesis entitled "Mood alternations: a synchronic and diachronic study of negated complement clauses". The rest of information can be found at: https://github.com/Raquel-Montero

The following are the packages that will be used:

```
library(readr)
library(readxl)
library(carData)                                    # for cat package
library(car)                                        # Anova function
library(dplyr, warn.conflicts = FALSE)              # Operations
library(plyr)
library(ggplot2)                                    # to use ggplot
suppressPackageStartupMessages(library(sjPlot))     # to change the font
library(Matrix)                                     # for lme4 package
library(lme4)                                       # to calculate lmer models
library(lmerTest, warn.conflicts = FALSE)           # for the p values
```

2. Data

```
#Importing the data sets:

data2 <- read_csv("DiachronySubjunctive.csv",
                  show_col_types = FALSE,
                  locale = locale(encoding =  "ISO-8859-1"))


ex.data2 <- subset(data2,
                     Mverbclass!="Na"& # not one of the four verbs
                     Emood !="Na" &
                     Emood !="NA" &
                     Emood !="inf" &
                     MClauseType=="noninterrogative" &
                     MClauseType2!="Na"&
                     MClauseType2!="declarative"&
                     EClauseType=="unambiguous"
                   )
```

```r
# Changing the indicative to 1 and subjunctive to 0:
ex.data2$Emood2 <- ifelse(ex.data2$Emood == "subj", 0, 1)
# Converting the into a numeric value:
ex.data2$Emood2 <- as.numeric(as.character(ex.data2$Emood2))

#changing names of values so that they are better for plotting:
ex.data2$Mverbtype2 <- ifelse(ex.data2$Mverbclass == "factive", "semi-factive", "non-factive")
ex.data2$Construction <- ifelse(ex.data2$Construction == "1st present", "1st present (A)", "other (B)")
```

3. Plotting the data

```r
# calculate the mean per period, verb type and matrix clause type:
plot.data <- ddply(ex.data2, .(Period,MClauseType2, Mverbclass),
                           summarize,
                           mean = mean(as.numeric(as.character(Emood2)), na.rm = T),
                           n = sum(!is.na(as.numeric(as.character(Emood2))))
                           )

#Font for the graph:


# Plot 1:
plot.data$Period <- as.factor(plot.data$Period) # Period as factor

mood.verb.class <- ggplot()+
                geom_point(data=plot.data,
                           aes(Period, mean, size = n, color=MClauseType2))+ #main data
                facet_wrap(~Mverbclass, ncol=2)+ # divide into facets
                scale_size_area(max_size=13,limits=c(1,800))+  # controls the maximum side of the point
                labs(title="Proportion Mood: not V(subj) that p(ind/subj)",  # axis
                      x = " ",
                       y="Mood Proportion (1=ind,0=subj)")+
                scale_color_manual(values=c("#ffbf00", "gray" ))+ # colors
                labs(size="size", colour="Construction")+ # labels legends
                ylim(0,1)

mood.verb.class
```

```r
ggsave(mood.verb.class, file="verb-class-subjunctive.png", width = 8, height= 4)
```