plague_sent_anal

shimmy

8/3/2020

```r
library(tidyverse)
```

```
## -- Attaching packages --------------------------------------------------------------

## v ggplot2 3.3.2     v purrr   0.3.4
## v tibble  3.0.2     v dplyr   1.0.0
## v tidyr   1.1.1     v stringr 1.4.0
## v readr   1.3.1     v forcats 0.5.0

## -- Conflicts -----------------------------------------------------------------------
## x dplyr::filter() masks stats::filter()
## x dplyr::lag()    masks stats::lag()
```

```r
library(tidytext)
library(janeaustenr)
library(stringr)
library(readtext)
library(readr)
library(summarytools)
```

```
## Registered S3 method overwritten by 'pryr':
##   method      from
##   print.bytes Rcpp

## For best results, restart R session and update pander using devtools:: or remotes::install_github('ra

##
## Attaching package: 'summarytools'

## The following object is masked from 'package:tibble':
##
##     view
```

```r
library(data.table)
```

```
##
## Attaching package: 'data.table'
```

```
## The following objects are masked from 'package:dplyr':
##
##      between, first, last

## The following object is masked from 'package:purrr':
##
##      transpose
```

```r
library(wesanderson)
```

```r
plague <- read.csv("plague_by_part_by_word.csv") %>% rename(no_punct = new_column) %>% drop_na(no_punct
plague <- plague %>% subset(no_punct != "")
```

```r
# p2 <- read.csv("df2.csv")
# p3 <- read.csv("df3.csv")
# p4 <- read.csv("df4.csv")
# p5 <- read.csv("df5.csv")
nrc <- get_sentiments("nrc") %>% rename(no_punct = word)
bing <- get_sentiments("bing") %>% rename(no_punct = word)
afin <- get_sentiments("afin") %>% rename(no_punct = word)
```

```r
#plague %>% filter(Word == "plague" | Word == "Plague") %>% ggplot(aes(x = count)) + geom_histogram()
```

```r
plague <-  plague%>% left_join(nrc, by = "no_punct")
plague <-  plague%>% left_join(bing, by = "no_punct")
plague <-  plague%>% left_join(afin, by = "no_punct")
plague <- plague %>% rename(nrc_sent = sentiment.x, afin_sent = sentiment.y)
# total5_sent$rows <- total5_sent%>% row.names()
# p1_sent <- p1 %>% left_join(sents, by = "Word")
# p2_sent <- p2 %>% left_join(sents, by = "Word")
# p3_sent <- p3 %>% left_join(sents, by = "Word")
# p4_sent <- p4 %>% left_join(sents, by = "Word")
# p5_sent <- p5 %>% left_join(sents, by = "Word")
# p1_sent %>% filter(!is.na(sentiment), sentiment != "positive", sentiment != "negative") %>% ggplot((a
# p2_sent %>% filter(!is.na(sentiment), sentiment != "positive", sentiment != "negative") %>% ggplot((a
# p3_sent %>% filter(!is.na(sentiment), sentiment != "positive", sentiment != "negative") %>% ggplot((a
# p4_sent %>% filter(!is.na(sentiment), sentiment != "positive", sentiment != "negative") %>% ggplot((a
# p5_sent %>% filter(!is.na(sentiment), sentiment != "positive", sentiment != "negative") %>% ggplot((a
# total5_sent_filtered <- total5_sent %>% filter(!is.na(sentiment), sentiment != "positive", sentiment
# total5_sent_filtered$num <- total5_sent_filtered %>% row.names() %>% as.numeric()
# total5_sent_filtered %>% ggplot(aes(x = num))+ geom_histogram(bins = 50) + facet_wrap(~sentiment) +sc
```

```r
think <- c(
"think",
"consider",
"determine",
"expect",
"feel",
"guess",
"judge",
"realize",
"see",
```

```r
"take",
"understand",
"comprehend",
"conceive",
"conclude",
"credit",
"deem",
"envisage",
"envision",
"esteem",
"estimate",
"fancy",
"feature",
"foresee",
"gather",
"hold",
"image
imagine",
"presume",
"project",
"reckon",
"regard",
"sense",
"suppose",
"surmise",
"suspect",
"vision",
"visualize"
) %>% as.data.frame() %>% rename(no_punct = ".")
think$thought = rep("think", nrow(think))
plague <- plague%>% left_join(think,  by = "no_punct")
# total5_think %>%filter(!is.na(thought)) %>% ggplot(aes(x = rows)) + geom_histogram(bins = 20)
```

```r
selfish <- c("egotistical",
"greedy",
"narcissistic",
"self-centered",
"egocentric",
"egoistic",
"egoistical",
"egomaniacal",
"egotistic",
"hoggish",
"mean",
"mercenary",
"miserly",
"narrow",
"parsimonious",
"prejudiced",
"self-indulgent",
"self-interested",
"self-seeking",
"stingy",
```

```r
"ungenerous",
"think") %>% as.data.frame() %>% rename(no_punct = ".")
selfish$selfish <- rep("selfish", nrow(selfish))
plague <- plague %>% left_join(selfish, by = "no_punct")
# total5_selfish <- total5 %>% left_join(selfish, by = "Word")
# total5_selfish %>%filter(!is.na(selfish)) %>% ggplot(aes(x = rows)) + geom_histogram(bins = 20)


love <- c("love",
  "affection",
"appreciation",
"devotion",
"emotion",
"fondness",
"friendship",
"infatuation",
"lust",
"passion",
"respect",
"taste",
"tenderness",
"yearning",
"adulation",
"allegiance",
"amity",
"amorousness",
"amour",
"ardor",
"attachment",
"case",
"cherishing",
"crush",
"delight",
"devotedness",
"enchantment",
"enjoyment",
"fervor",
"fidelity",
"flame",
"hankering",
"idolatry",
"inclination",
"involvement",
"like",
"partiality",
"piety",
"rapture",
"regard",
"relish",
"sentiment",
"weakness",
"worship",
"zeal",
"ardency")%>% as.data.frame() %>% rename(no_punct = ".")
```

```
love$love <- rep("love", nrow(love))
# total5_love <- total5 %>% left_join(love, by = "no_punct")
# total5_love %>%filter(!is.na(love)) %>% ggplot(aes(x = rows)) + geom_histogram()
plague <- plague %>% left_join(love, by = "no_punct")
```

```r
{r} # # total5_sent_freq_part_1 <- total5_sent %>%filter(part
== "part_1") %>% freq(sentiment) %>% as.data.frame() %>% rename(percent_
= "% Total", percent_valid = "% Valid", percent_valid_cum = "%
Valid Cum.", percent_total_cum = "% Total Cum.") %>% setattr("row.names"
c("anger",         "anticipation", "disgust",       "fear",          "joy",
"negative",      "positive",     "sadness",       "surprise",
"trust",  "non_avail",       "Total")) # # total5_sent_freq_part_2
<- total5_sent %>%filter(part == "part_2") %>% freq(sentiment)
%>% as.data.frame() %>% rename(percent_total = "% Total", percent_valid
= "% Valid", percent_valid_cum = "% Valid Cum.", percent_total_cum
= "% Total Cum.") %>% setattr("row.names", c("anger",         "anticipat
"disgust",        "fear",           "joy",            "negative",
"positive",      "sadness",        "surprise",      "trust",  "non_avail",
"Total")) # # total5_sent_freq_part_3<- total5_sent %>%filter(part
== "part_3") %>% freq(sentiment) %>% as.data.frame() %>% rename(percent_
= "% Total", percent_valid = "% Valid", percent_valid_cum = "%
Valid Cum.", percent_total_cum = "% Total Cum.") %>% setattr("row.names"
c("anger",         "anticipation", "disgust",       "fear",          "joy",
"negative",      "positive",     "sadness",       "surprise",
"trust",  "non_avail",       "Total")) # # total5_sent_freq_part_4
<- total5_sent %>%filter(part == "part_4") %>% freq(sentiment)
%>% as.data.frame() %>% rename(percent_total = "% Total", percent_valid
= "% Valid", percent_valid_cum = "% Valid Cum.", percent_total_cum
= "% Total Cum.") %>% setattr("row.names", c("anger",         "anticipat
"disgust",        "fear",           "joy",            "negative",
"positive",      "sadness",        "surprise",      "trust",  "non_avail",
"Total")) # # total5_sent_freq_part_5 <- total5_sent %>%filter(part
== "part_5") %>% freq(sentiment) %>% as.data.frame() %>% rename(percent_
= "% Total", percent_valid = "% Valid", percent_valid_cum = "%
Valid Cum.", percent_total_cum = "% Total Cum.") %>% setattr("row.names"
c("anger",         "anticipation", "disgust",       "fear",          "joy",
"negative",      "positive",     "sadness",       "surprise",
"trust",  "non_avail",       "Total")) # #  # # total5_sent_freq
<- total5_sent %>% freq(sentiment) %>% as.data.frame() %>%
rename(percent_total = "% Total", percent_valid = "% Valid",
percent_valid_cum = "% Valid Cum.", percent_total_cum = "%
Total Cum.") %>% setattr("row.names", c("anger",         "anticipation",
"disgust",        "fear",           "joy",            "negative",
"positive",      "sadness",        "surprise",      "trust",  "non_avail",
"Total")) #
```

```r
anxiety <- c("angst",
"apprehension",
"concern",
"disquiet",
"doubt",
"dread",
"jitters",
"misery",
"misgiving",
"mistrust",
"nervousness",
"panic",
"restlessness",
"suspense",
"trouble",
"uncertainty",
"unease",
"uneasiness",
"botheration",
"butterflies",
"care",
"creeps",
"disquietude",
"distress",
"downer",
"drag",
"fidgets",
"flap",
"foreboding",
"fretfulness",
"fuss",
"heebie-jeebies",
"jumps",
"needles",
"shakes",
"shivers",
"solicitude",
"watchfulness",
"willies",
"worriment",
"all-overs",
"nail-biting",
"anxiety"
) %>% as.data.frame() %>% rename(no_punct = ".")
anxiety$anxiety<- rep("anxiety", nrow(anxiety))
plague <- plague %>% left_join(anxiety, by = "no_punct")
#plague %>% filter(!is.na(anxiety)) %>% ggplot(aes(x = count)) + geom_histogram(bins = 10)


#plague %>% filter(!is.na(value)) %>% ggplot(aes(x = count, y = value)) + geom_point()


we <-c("we") %>% as.data.frame() %>% rename(no_punct = ".")
we$we <- rep("we", nrow(we))
```

```r
plague <- plague %>% left_join(we, by = "no_punct")


exile <- c("exile",
           "banishment",
           "diaspora",
           "dispersion",
           "displacement",
"exclusion",
"expatriation",
"expulsion",
"extradition",
"migration",
"ostracism",
"proscription",
"relegation",
"scattering",
"separation") %>% as.data.frame() %>% rename(no_punct = ".")
exile$exile<- rep("exile", nrow(exile))
plague <- plague %>% left_join(exile, by = "no_punct")


suffer <- c("suffer", "adversity",
"anguish",
"difficulty",
"discomfort",
"hardship",
"misery",
"misfortune",
"ordeal",
"torment",
"torture",
"affliction",
"distress",
"dolor",
"martyrdom",
"passion") %>% as.data.frame() %>% rename(no_punct = ".")
suffer$suffer <- rep("suffer", nrow(suffer))
plague <- plague %>% left_join(suffer, by = "no_punct")


# total5_sent_freq_part_1$row_names <- total5_sent_freq %>% rownames()
# total5_sent_freq_part_2$row_names <- total5_sent_freq %>% rownames()
# total5_sent_freq_part_3$row_names <- total5_sent_freq %>% rownames()
# total5_sent_freq_part_4$row_names <- total5_sent_freq %>% rownames()
# total5_sent_freq_part_5$row_names <- total5_sent_freq %>% rownames()
# total5_sent_freq$row_names <- total5_sent_freq %>% rownames()


#plague %>% group_by(Word) %>% View()


# set.seed(1234)
# wordcloud(words = , freq = d$freq, min.freq = 1,
#           max.words=200, random.order=FALSE, rot.per=0.35,
#           colors=brewer.pal(8, "Dark2"))
```

```
# total5_sent_freq_part_1  %>% slice(1:10) %>% ggplot(aes(x = row_names, y = percent_total)) + geom_bar
# total5_sent_freq_part_2  %>% slice(1:10) %>% ggplot(aes(x = row_names, y = percent_total)) + geom_bar
# total5_sent_freq_part_3  %>% slice(1:10) %>% ggplot(aes(x = row_names, y = percent_total)) + geom_bar
# total5_sent_freq_part_4  %>% slice(1:10) %>% ggplot(aes(x = row_names, y = percent_total)) + geom_bar
# total5_sent_freq_part_5  %>% slice(1:10) %>% ggplot(aes(x = row_names, y = percent_total)) + geom_bar
#
# total5_sent_freq  %>% slice(1:10) %>% ggplot(aes(x = row_names, y = percent_total)) + geom_bar(stat="

plague %>% write.csv("plague_edited_df.csv")
```

```
plague %>% group_by(part) %>% freq(nrc_sent)
```

```
## Frequencies
## plague$nrc_sent
## Type: Character
## Group: part = part_1
##
##                      Freq   % Valid   % Valid Cum.   % Total   % Total Cum.
## ------------------ ------- --------- -------------- --------- --------------
##             anger     173      5.77           5.77      1.07           1.07
##      anticipation     261      8.71          14.49      1.61           2.68
##           disgust     185      6.17          20.66      1.14           3.82
##              fear     301     10.05          30.71      1.86           5.67
##               joy     168      5.61          36.32      1.04           6.71
##          negative     495     16.52          52.84      3.05           9.76
##          positive     616     20.56          73.40      3.80          13.56
##           sadness     280      9.35          82.74      1.73          15.28
##          surprise     130      4.34          87.08      0.80          16.09
##             trust     387     12.92         100.00      2.39          18.47
##              <NA>   13223                              81.53         100.00
##             Total   16219    100.00         100.00    100.00         100.00
##
## Group: part = part_2
##
##                      Freq   % Valid   % Valid Cum.   % Total   % Total Cum.
## ------------------ ------- --------- -------------- --------- --------------
##             anger     282      5.37           5.37      1.08           1.08
##      anticipation     533     10.15          15.52      2.05           3.13
##           disgust     269      5.12          20.64      1.03           4.16
##              fear     498      9.48          30.12      1.91           6.07
##               joy     373      7.10          37.22      1.43           7.51
##          negative     834     15.88          53.10      3.20          10.71
##          positive    1041     19.82          72.92      4.00          14.71
##           sadness     519      9.88          82.81      1.99          16.70
##          surprise     271      5.16          87.97      1.04          17.74
##             trust     632     12.03         100.00      2.43          20.17
##              <NA>   20792                              79.83         100.00
##             Total   26044    100.00         100.00    100.00         100.00
##
## Group: part = part_3
##
##                      Freq   % Valid   % Valid Cum.   % Total   % Total Cum.
## ------------------ ------- --------- -------------- --------- --------------
```

```
##          anger      128      7.34           7.34      1.84           1.84
##    anticipation      139      7.97          15.30      2.00           3.84
##         disgust      122      6.99          22.29      1.75           5.59
##            fear      232     13.30          35.59      3.33           8.92
##             joy       83      4.76          40.34      1.19          10.11
##        negative      327     18.74          59.08      4.70          14.81
##        positive      247     14.15          73.24      3.55          18.36
##         sadness      229     13.12          86.36      3.29          21.65
##        surprise       64      3.67          90.03      0.92          22.57
##           trust      174      9.97         100.00      2.50          25.07
##            <NA>     5216                             74.93         100.00
##           Total     6961    100.00         100.00    100.00         100.00
##
## Group: part = part_4
##
##                      Freq   % Valid   % Valid Cum.   % Total   % Total Cum.
## ------------------- ------- --------- -------------- --------- --------------
##          anger      292      6.23           6.23      1.31           1.31
##    anticipation      441      9.40          15.63      1.98           3.29
##         disgust      281      5.99          21.62      1.26           4.55
##            fear      510     10.87          32.49      2.29           6.84
##             joy      306      6.52          39.02      1.37           8.21
##        negative      804     17.14          56.16      3.61          11.82
##        positive      824     17.57          73.73      3.70          15.51
##         sadness      473     10.09          83.82      2.12          17.63
##        surprise      224      4.78          88.59      1.00          18.64
##           trust      535     11.41         100.00      2.40          21.04
##            <NA>    17603                             78.96         100.00
##           Total    22293    100.00         100.00    100.00         100.00
##
## Group: part = part_5
##
##                      Freq   % Valid   % Valid Cum.   % Total   % Total Cum.
## ------------------- ------- --------- -------------- --------- --------------
##          anger      192      6.28           6.28      1.43           1.43
##    anticipation      325     10.64          16.92      2.42           3.85
##         disgust      160      5.24          22.16      1.19           5.04
##            fear      313     10.25          32.41      2.33           7.36
##             joy      233      7.63          40.03      1.73           9.10
##        negative      491     16.07          56.10      3.65          12.75
##        positive      526     17.22          73.32      3.91          16.66
##         sadness      315     10.31          83.63      2.34          19.01
##        surprise      154      5.04          88.67      1.15          20.15
##           trust      346     11.33         100.00      2.57          22.73
##            <NA>    10387                             77.27         100.00
##           Total    13442    100.00         100.00    100.00         100.00
```

```r
plague %>% group_by(part) %>% freq(we)
```

```
## Frequencies
## plague$we
## Type: Character
## Group: part = part_1
##
```

```
##                Freq    % Valid   % Valid Cum.    % Total    % Total Cum.
## ----------- ------- --------- -------------- --------- --------------
##          we      19    100.00         100.00       0.12           0.12
##        <NA>   16200                              99.88         100.00
##       Total   16219    100.00         100.00     100.00         100.00
##
## Group: part = part_2
##
##                Freq    % Valid   % Valid Cum.    % Total    % Total Cum.
## ----------- ------- --------- -------------- --------- --------------
##          we      32    100.00         100.00       0.12           0.12
##        <NA>   26012                              99.88         100.00
##       Total   26044    100.00         100.00     100.00         100.00
##
## Group: part = part_3
##
##                Freq    % Valid   % Valid Cum.    % Total    % Total Cum.
## ----------- ------ --------- -------------- --------- --------------
##          we      10    100.00         100.00       0.14           0.14
##        <NA>    6951                              99.86         100.00
##       Total    6961    100.00         100.00     100.00         100.00
##
## Group: part = part_4
##
##                Freq    % Valid   % Valid Cum.    % Total    % Total Cum.
## ----------- ------- --------- -------------- --------- --------------
##          we      39    100.00         100.00       0.17           0.17
##        <NA>   22254                              99.83         100.00
##       Total   22293    100.00         100.00     100.00         100.00
##
## Group: part = part_5
##
##                Freq    % Valid   % Valid Cum.    % Total    % Total Cum.
## ----------- ------- --------- -------------- --------- --------------
##          we       9    100.00         100.00       0.07           0.07
##        <NA>   13433                              99.93         100.00
##       Total   13442    100.00         100.00     100.00         100.00
```

```r
love_freq <-plague %>% group_by(part) %>% freq(love)
```

```r
plague %>% group_by(part) %>% freq(anxiety)
```

```
## Frequencies
## plague$anxiety
## Type: Character
## Group: part = part_1
##
##                 Freq    % Valid   % Valid Cum.    % Total    % Total Cum.
## ------------- ------- --------- -------------- --------- --------------
##      anxiety      55    100.00         100.00       0.34           0.34
##         <NA>   16164                              99.66         100.00
##        Total   16219    100.00         100.00     100.00         100.00
##
```

```
## Group: part = part_2
##
##                 Freq    % Valid   % Valid Cum.    % Total   % Total Cum.
## -------------- ------- --------- --------------- --------- --------------
##        anxiety      82    100.00          100.00      0.31           0.31
##           <NA>   25962                             99.69         100.00
##          Total   26044    100.00          100.00    100.00         100.00
##
## Group: part = part_3
##
##                 Freq    % Valid   % Valid Cum.    % Total   % Total Cum.
## -------------- ------ --------- --------------- --------- --------------
##        anxiety      35    100.00          100.00      0.50           0.50
##           <NA>    6926                             99.50         100.00
##          Total    6961    100.00          100.00    100.00         100.00
##
## Group: part = part_4
##
##                 Freq    % Valid   % Valid Cum.    % Total   % Total Cum.
## -------------- ------- --------- --------------- --------- --------------
##        anxiety      51    100.00          100.00      0.23           0.23
##           <NA>   22242                             99.77         100.00
##          Total   22293    100.00          100.00    100.00         100.00
##
## Group: part = part_5
##
##                 Freq    % Valid   % Valid Cum.    % Total   % Total Cum.
## -------------- ------- --------- --------------- --------- --------------
##        anxiety      51    100.00          100.00      0.38           0.38
##           <NA>   13391                             99.62         100.00
##          Total   13442    100.00          100.00    100.00         100.00
```

plague **%>%** **group_by**(part) **%>%** **freq**(selfish)

```
## Frequencies
## plague$selfish
## Type: Character
## Group: part = part_1
##
##                 Freq    % Valid   % Valid Cum.    % Total   % Total Cum.
## -------------- ------- --------- --------------- --------- --------------
##        selfish       7    100.00          100.00      0.04           0.04
##           <NA>   16212                             99.96         100.00
##          Total   16219    100.00          100.00    100.00         100.00
##
## Group: part = part_2
##
##                 Freq    % Valid   % Valid Cum.    % Total   % Total Cum.
## -------------- ------- --------- --------------- --------- --------------
##        selfish       8    100.00          100.00      0.03           0.03
##           <NA>   26036                             99.97         100.00
##          Total   26044    100.00          100.00    100.00         100.00
##
## Group: part = part_3
```

```
## 
##               Freq    % Valid    % Valid Cum.    % Total    % Total Cum.
## -------------  ------  ---------  --------------  ---------  --------------
##       selfish      2     100.00          100.00       0.03            0.03
##         <NA>   6959                                  99.97          100.00
##        Total   6961     100.00          100.00     100.00          100.00
## 
## Group: part = part_4
## 
##               Freq    % Valid    % Valid Cum.    % Total    % Total Cum.
## -------------  -------  ---------  --------------  ---------  --------------
##       selfish      5     100.00          100.00       0.02            0.02
##         <NA>  22288                                  99.98          100.00
##        Total  22293     100.00          100.00     100.00          100.00
## 
## Group: part = part_5
## 
##               Freq    % Valid    % Valid Cum.    % Total    % Total Cum.
## -------------  -------  ---------  --------------  ---------  --------------
##       selfish      2     100.00          100.00       0.01            0.01
##         <NA>  13440                                  99.99          100.00
##        Total  13442     100.00          100.00     100.00          100.00
```

```r
plague %>% group_by(part) %>% freq(value)
```

```
## Frequencies
## plague$value
## Type: Numeric
## Group: part = part_1
## 
##             Freq    % Valid    % Valid Cum.    % Total    % Total Cum.
## -----------  -------  ---------  --------------  ---------  --------------
##          -4      1       0.07            0.07       0.01            0.01
##          -3    151      11.30           11.38       0.93            0.94
##          -2    377      28.22           39.60       2.32            3.26
##          -1    176      13.17           52.77       1.09            4.35
##           1    229      17.14           69.91       1.41            5.76
##           2    246      18.41           88.32       1.52            7.28
##           3    153      11.45           99.78       0.94            8.22
##           4      3       0.22          100.00       0.02            8.24
##        <NA>  14883                                 91.76          100.00
##       Total  16219     100.00          100.00     100.00          100.00
## 
## Group: part = part_2
## 
##             Freq    % Valid    % Valid Cum.    % Total    % Total Cum.
## -----------  -------  ---------  --------------  ---------  --------------
##          -5      2       0.08            0.08       0.01            0.01
##          -4      5       0.21            0.30       0.02            0.03
##          -3    163       6.87            7.17       0.63            0.65
##          -2    617      26.01           33.18       2.37            3.02
##          -1    413      17.41           50.59       1.59            4.61
##           1    387      16.32           66.91       1.49            6.09
##           2    469      19.77           86.68       1.80            7.89
```

```
##            3     295     12.44          99.11       1.13          9.03
##            4      20      0.84          99.96       0.08          9.10
##            5       1      0.04         100.00       0.00          9.11
##         <NA>   23672                               90.89        100.00
##        Total   26044    100.00         100.00     100.00        100.00
##
## Group: part = part_3
##
##              Freq   % Valid   % Valid Cum.   % Total   % Total Cum.
## ----------- ------ --------- -------------- --------- --------------
##          -4      1      0.13           0.13      0.01           0.01
##          -3     92     11.96          12.09      1.32           1.34
##          -2    261     33.94          46.03      3.75           5.09
##          -1    128     16.64          62.68      1.84           6.92
##           1     94     12.22          74.90      1.35           8.27
##           2    112     14.56          89.47      1.61           9.88
##           3     74      9.62          99.09      1.06          10.95
##           4      7      0.91         100.00      0.10          11.05
##        <NA>   6192                              88.95         100.00
##       Total   6961    100.00         100.00    100.00         100.00
##
## Group: part = part_4
##
##              Freq   % Valid   % Valid Cum.   % Total   % Total Cum.
## ----------- ------- --------- -------------- --------- --------------
##          -4     25      1.16           1.16      0.11           0.11
##          -3    226     10.52          11.69      1.01           1.13
##          -2    638     29.70          41.39      2.86           3.99
##          -1    341     15.88          57.26      1.53           5.52
##           1    310     14.43          71.69      1.39           6.91
##           2    377     17.55          89.25      1.69           8.60
##           3    223     10.38          99.63      1.00           9.60
##           4      8      0.37         100.00      0.04           9.64
##        <NA>  20145                              90.36         100.00
##       Total  22293    100.00         100.00    100.00         100.00
##
## Group: part = part_5
##
##              Freq   % Valid   % Valid Cum.   % Total   % Total Cum.
## ----------- ------- --------- -------------- --------- --------------
##          -3    113      7.72           7.72      0.84           0.84
##          -2    353     24.13          31.85      2.63           3.47
##          -1    237     16.20          48.05      1.76           5.23
##           1    174     11.89          59.95      1.29           6.52
##           2    341     23.31          83.25      2.54           9.06
##           3    202     13.81          97.06      1.50          10.56
##           4     43      2.94         100.00      0.32          10.88
##        <NA>  11979                              89.12         100.00
##       Total  13442    100.00         100.00    100.00         100.00
```

```r
plague %>% group_by(part) %>% freq(afin_sent)
```

```
## Frequencies
## plague$afin_sent
```

```
## Type: Character
## Group: part = part_1
##
##                     Freq    % Valid   % Valid Cum.    % Total    % Total Cum.
## --------------    -------  ---------  -------------   ---------  --------------
##        negative     1143     66.96          66.96       7.05            7.05
##        positive      564     33.04         100.00       3.48           10.52
##            <NA>    14512                                89.48          100.00
##           Total    16219    100.00         100.00     100.00          100.00
##
## Group: part = part_2
##
##                     Freq    % Valid   % Valid Cum.    % Total    % Total Cum.
## --------------    -------  ---------  -------------   ---------  --------------
##        negative     1870     64.53          64.53       7.18            7.18
##        positive     1028     35.47         100.00       3.95           11.13
##            <NA>    23146                                88.87          100.00
##           Total    26044    100.00         100.00     100.00          100.00
##
## Group: part = part_3
##
##                     Freq    % Valid   % Valid Cum.    % Total    % Total Cum.
## --------------    ------   ---------  -------------   ---------  --------------
##        negative      819     74.59          74.59      11.77           11.77
##        positive      279     25.41         100.00       4.01           15.77
##            <NA>     5863                                84.23          100.00
##           Total     6961    100.00         100.00     100.00          100.00
##
## Group: part = part_4
##
##                     Freq    % Valid   % Valid Cum.    % Total    % Total Cum.
## --------------    -------  ---------  -------------   ---------  --------------
##        negative     1934     69.77          69.77       8.68            8.68
##        positive      838     30.23         100.00       3.76           12.43
##            <NA>    19521                                87.57          100.00
##           Total    22293    100.00         100.00     100.00          100.00
##
## Group: part = part_5
##
##                     Freq    % Valid   % Valid Cum.    % Total    % Total Cum.
## --------------    -------  ---------  -------------   ---------  --------------
##        negative     1226     63.59          63.59       9.12            9.12
##        positive      702     36.41         100.00       5.22           14.34
##            <NA>    11514                                85.66          100.00
##           Total    13442    100.00         100.00     100.00          100.00
```

```r
plague %>% group_by(part) %>% freq(suffer)
```

```
## Frequencies
## plague$suffer
## Type: Character
## Group: part = part_1
##
##                       Freq    % Valid    % Valid Cum.    % Total    % Total Cum.
```

```
## ------------- ------- --------- --------------- --------- --------------
##       suffer      16    100.00          100.00      0.10           0.10
##        <NA>    16203                              99.90         100.00
##       Total   16219    100.00          100.00    100.00         100.00
##
## Group: part = part_2
##
##              Freq   % Valid   % Valid Cum.   % Total   % Total Cum.
## ------------ ------- --------- --------------- --------- --------------
##       suffer      78    100.00          100.00      0.30           0.30
##        <NA>    25966                              99.70         100.00
##       Total   26044    100.00          100.00    100.00         100.00
##
## Group: part = part_3
##
##              Freq   % Valid   % Valid Cum.   % Total   % Total Cum.
## ------------ ------- --------- --------------- --------- --------------
##       suffer      30    100.00          100.00      0.43           0.43
##        <NA>     6931                              99.57         100.00
##       Total    6961    100.00          100.00    100.00         100.00
##
## Group: part = part_4
##
##              Freq   % Valid   % Valid Cum.   % Total   % Total Cum.
## ------------ ------- --------- --------------- --------- --------------
##       suffer      51    100.00          100.00      0.23           0.23
##        <NA>    22242                              99.77         100.00
##       Total   22293    100.00          100.00    100.00         100.00
##
## Group: part = part_5
##
##              Freq   % Valid   % Valid Cum.   % Total   % Total Cum.
## ------------ ------- --------- --------------- --------- --------------
##       suffer      15    100.00          100.00      0.11           0.11
##        <NA>    13427                              99.89         100.00
##       Total   13442    100.00          100.00    100.00         100.00
```

```r
plague %>% group_by(part) %>% freq(exile) #%>% ggplot(aes(x = ))
```

```
## Frequencies
## plague$exile
## Type: Character
## Group: part = part_1
##
##            Freq   % Valid   % Valid Cum.   % Total   % Total Cum.
## ----------- ------- --------- --------------- --------- --------------
##       <NA>   16219                            100.00         100.00
##      Total   16219      0.00          100.00    100.00         100.00
##
## Group: part = part_2
##
##            Freq   % Valid   % Valid Cum.   % Total   % Total Cum.
## ----------- ------- --------- --------------- --------- --------------
##       exile      35    100.00          100.00      0.13           0.13
```

```
##          <NA>   26009                                99.87          100.00
##         Total   26044    100.00          100.00     100.00          100.00
##
## Group: part = part_3
##
##                 Freq   % Valid   % Valid Cum.    % Total   % Total Cum.
## ------------ ------- --------- -------------- --------- --------------
##         exile     19    100.00          100.00      0.27            0.27
##          <NA>    6942                                99.73          100.00
##         Total    6961    100.00          100.00    100.00          100.00
##
## Group: part = part_4
##
##                 Freq   % Valid   % Valid Cum.    % Total   % Total Cum.
## ------------ ------- --------- -------------- --------- --------------
##         exile      2    100.00          100.00      0.01            0.01
##          <NA>   22291                                99.99          100.00
##         Total   22293    100.00          100.00    100.00          100.00
##
## Group: part = part_5
##
##                 Freq   % Valid   % Valid Cum.    % Total   % Total Cum.
## ------------ ------- --------- -------------- --------- --------------
##         exile     38    100.00          100.00      0.28            0.28
##          <NA>   13404                                99.72          100.00
##         Total   13442    100.00          100.00    100.00          100.00
```

```r
plague %>%filter(!is.na(we))%>% ggplot(aes(x = count)) + geom_histogram() + ggtitle("Change of \"WE\" Us
```

```
## Saving 6.5 x 4.5 in image
```

```
## `stat_bin()` using `bins = 30`. Pick better value with `binwidth`.
## `stat_bin()` using `bins = 30`. Pick better value with `binwidth`.
```

Change of "WE" Usage Throughout the Novel
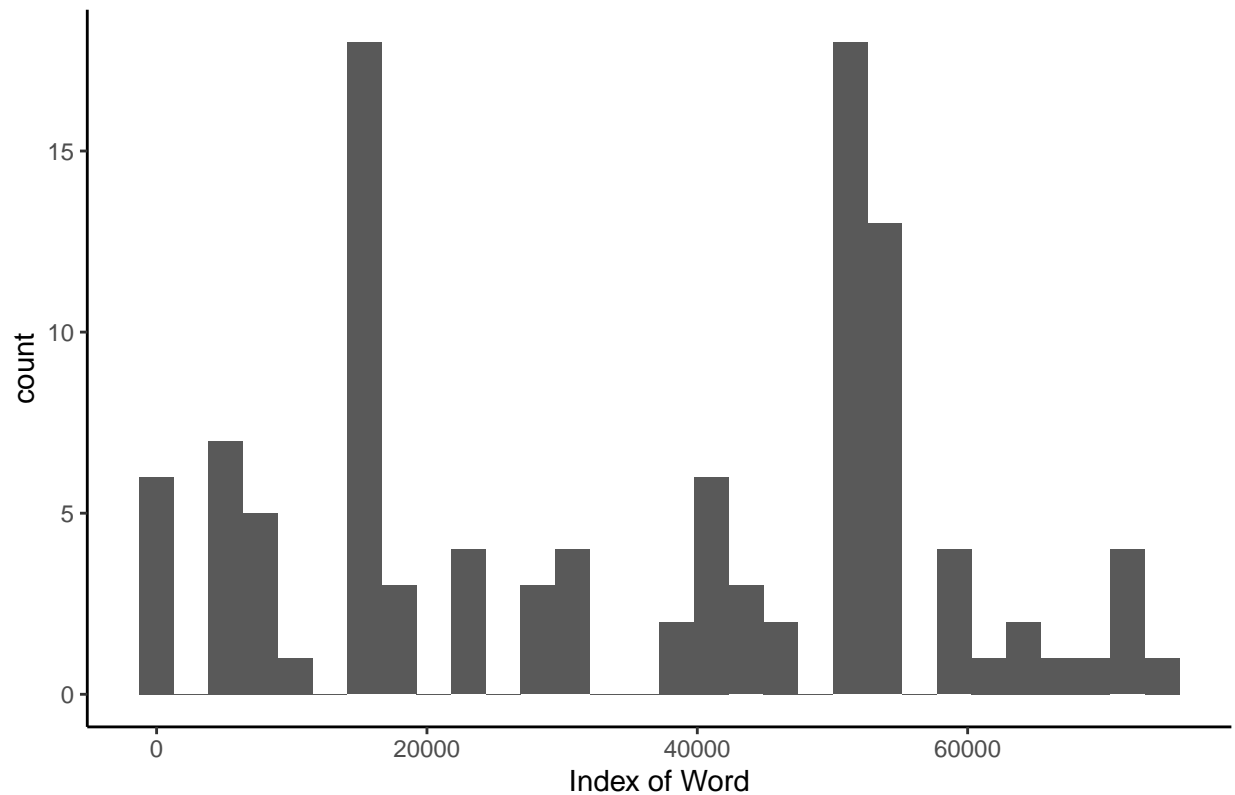

```r
plague %>%filter(!is.na(love))%>% ggplot(aes(x = count)) + geom_histogram() + ggtitle("Change of \"love")
```

```
## Saving 6.5 x 4.5 in image
## 'stat_bin()' using 'bins = 30'. Pick better value with 'binwidth'.
## 'stat_bin()' using 'bins = 30'. Pick better value with 'binwidth'.
```
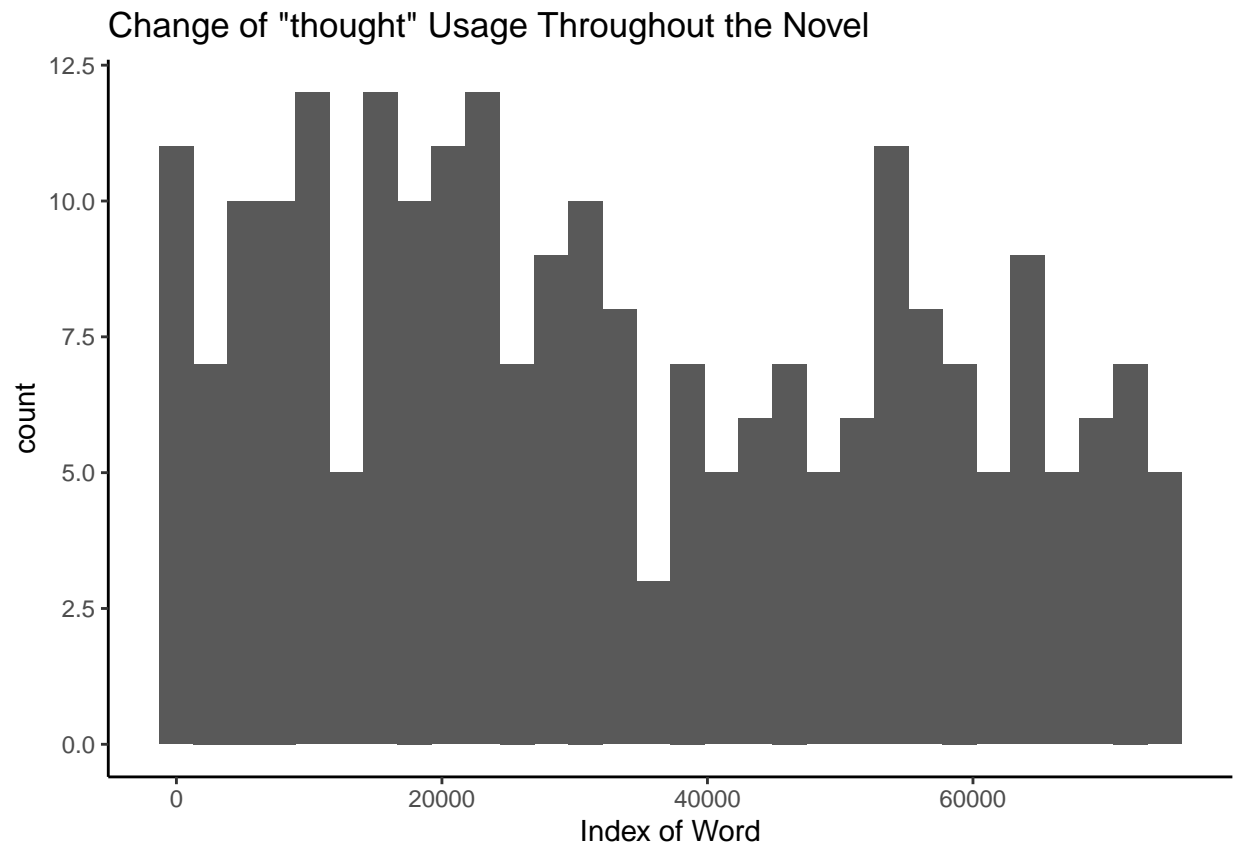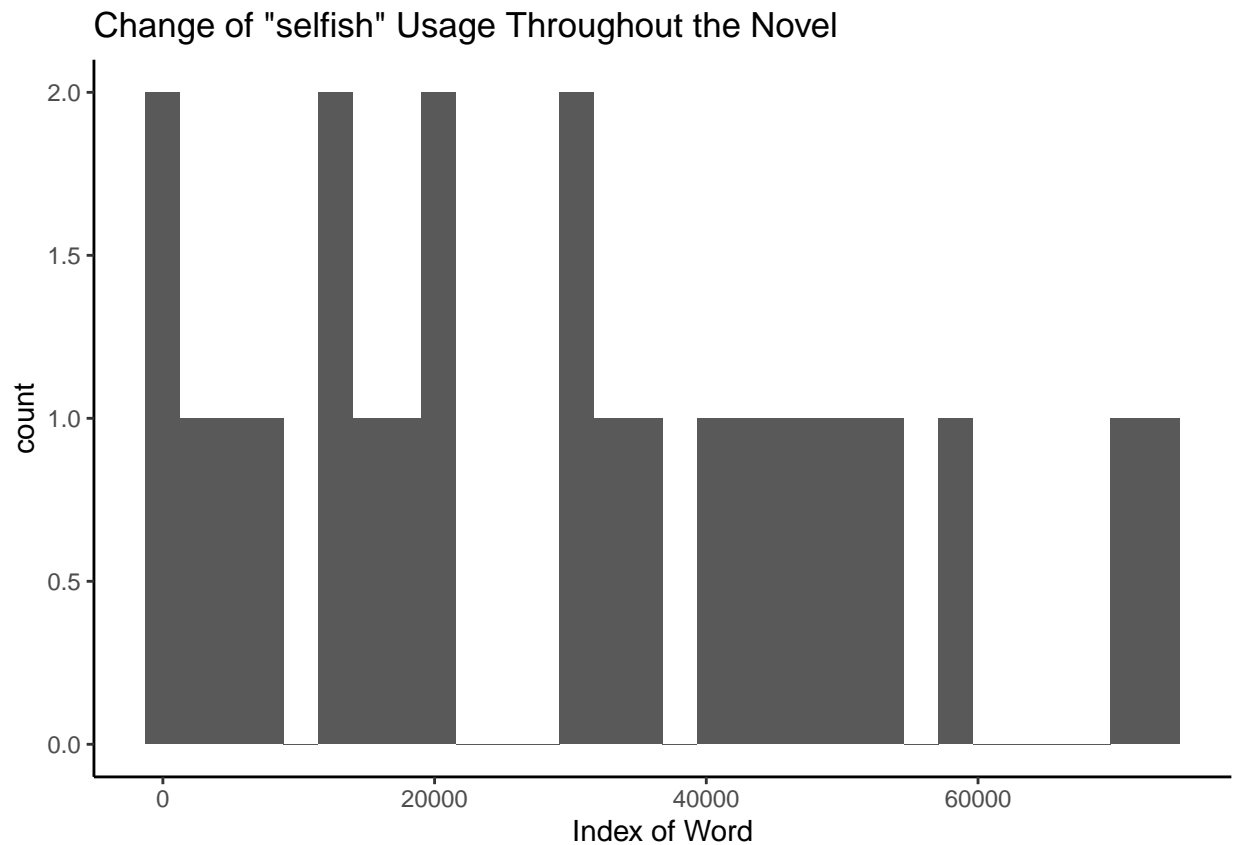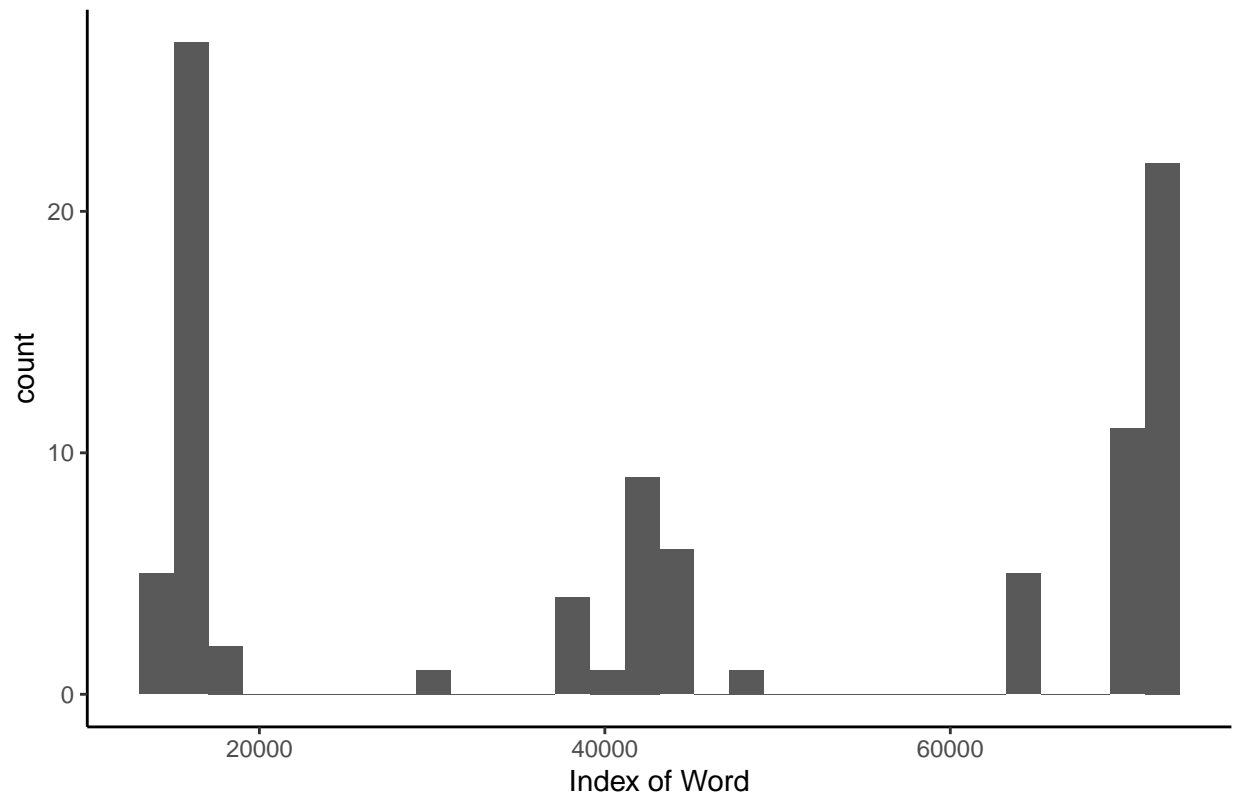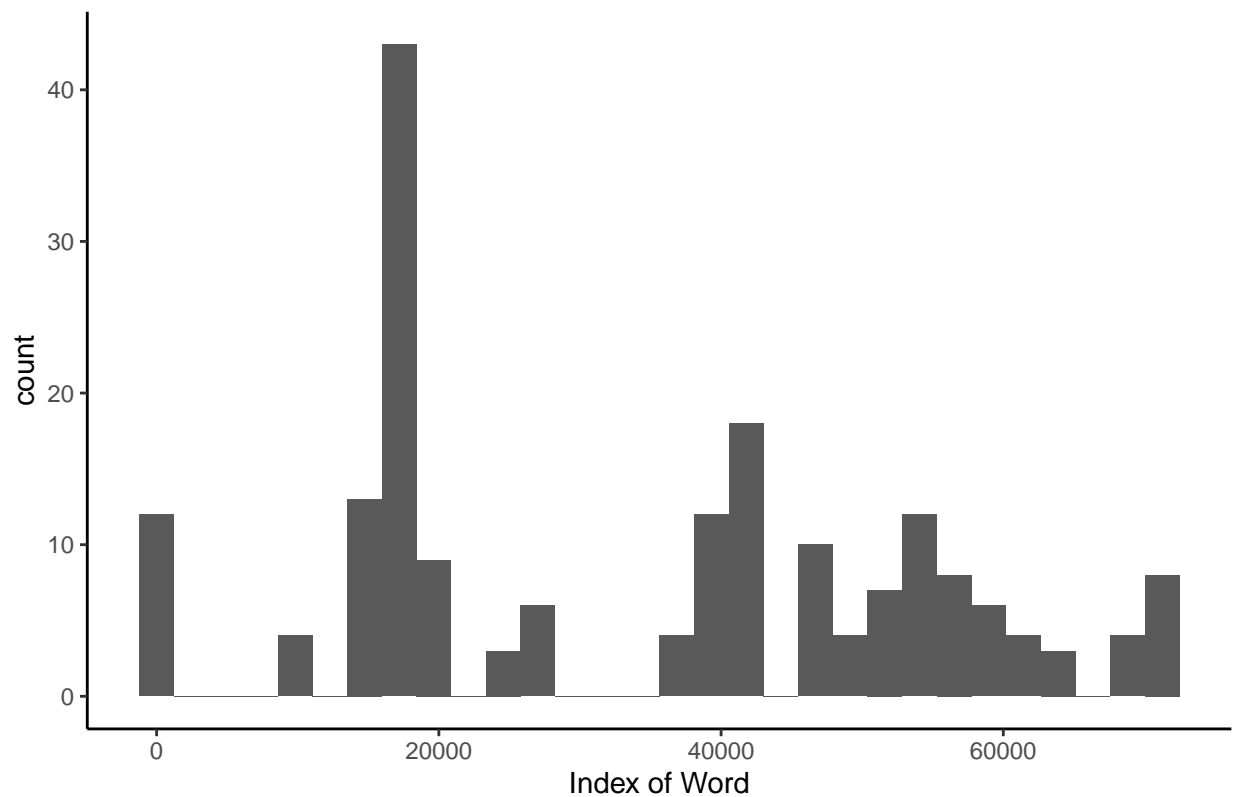
Change of "love" Usage Throughout the Novel
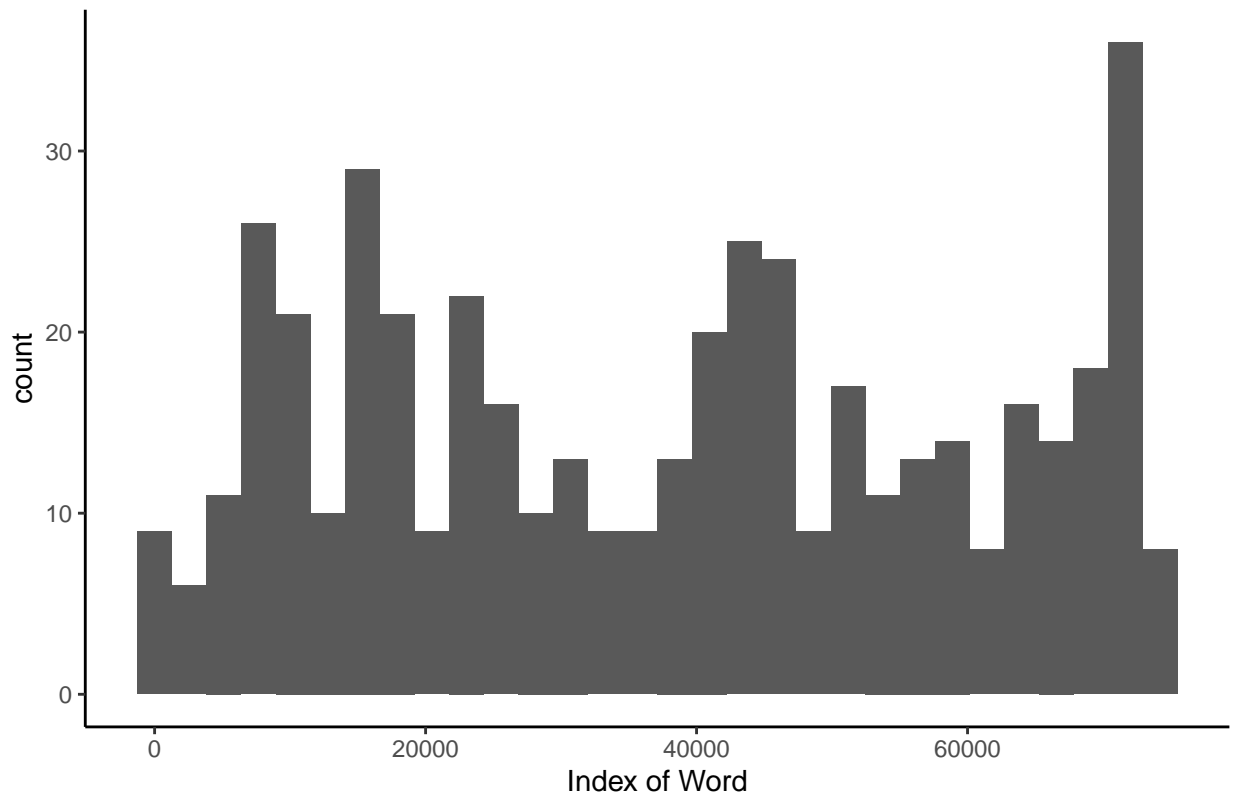

```
plague %>%filter(!is.na(thought))%>% ggplot(aes(x = count)) + geom_histogram() +  ggtitle("Change of \"
```

```
## Saving 6.5 x 4.5 in image
## `stat_bin()` using `bins = 30`. Pick better value with `binwidth`.
## `stat_bin()` using `bins = 30`. Pick better value with `binwidth`.
```

Change of "thought" Usage Throughout the Novel


```
plague %>%filter(!is.na(selfish))%>% ggplot(aes(x = count)) + geom_histogram() + ggtitle("Change of \"s
```

```
## Saving 6.5 x 4.5 in image
## `stat_bin()` using `bins = 30`. Pick better value with `binwidth`.
## `stat_bin()` using `bins = 30`. Pick better value with `binwidth`.
```

Change of "selfish" Usage Throughout the Novel


```
plague %>%filter(!is.na(exile))%>% ggplot(aes(x = count)) + geom_histogram() +  ggtitle("Change of \"exi
```

```
## Saving 6.5 x 4.5 in image
## 'stat_bin()' using 'bins = 30'. Pick better value with 'binwidth'.
## 'stat_bin()' using 'bins = 30'. Pick better value with 'binwidth'.
```
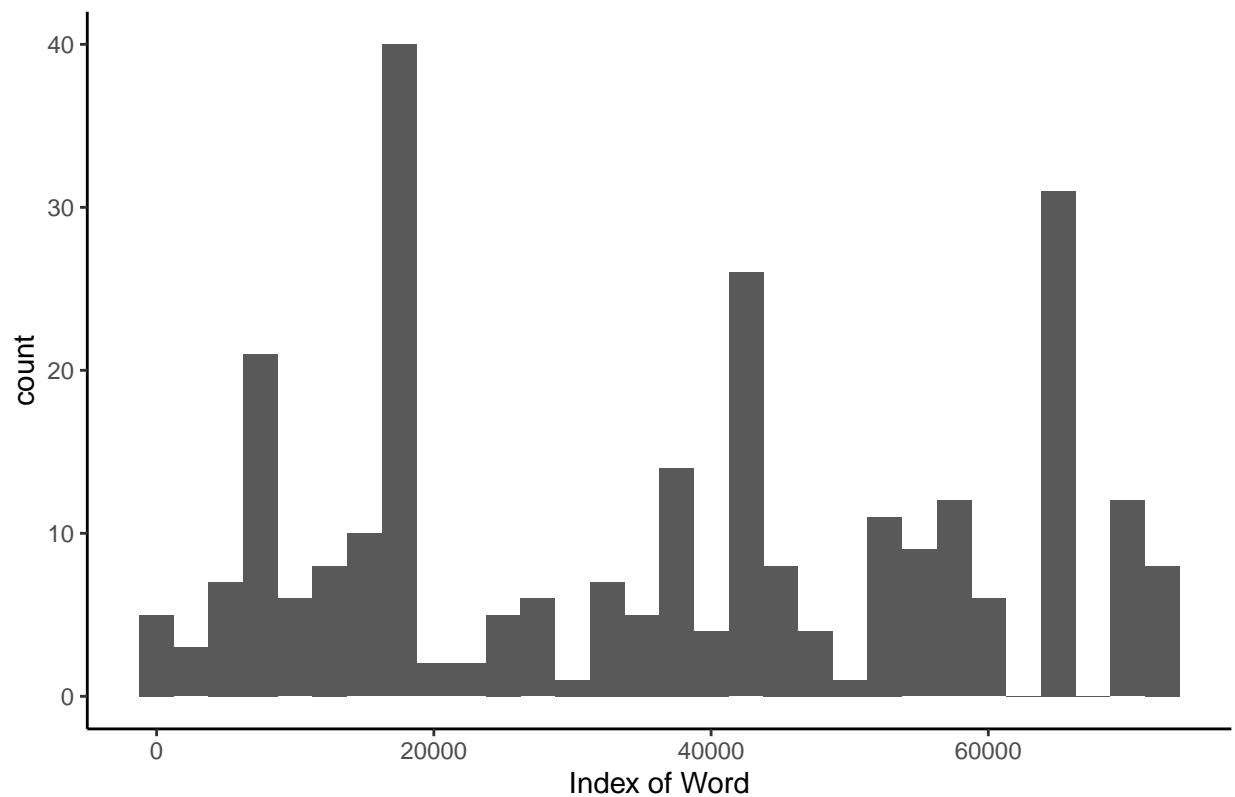
Change of "exile" Usage Throughout the Novel


```
plague %>%filter(!is.na(suffer))%>% ggplot(aes(x = count)) + geom_histogram() +  ggtitle("Change of \"su
```

```
## Saving 6.5 x 4.5 in image
## `stat_bin()` using `bins = 30`. Pick better value with `binwidth`.
## `stat_bin()` using `bins = 30`. Pick better value with `binwidth`.
```

Change of "suffer" Usage Throughout the Novel


```
plague %>%filter(!is.na(anxiety))%>% ggplot(aes(x = count)) + geom_histogram() +  ggtitle("Change of \"a
```

```
## Saving 6.5 x 4.5 in image
## 'stat_bin()' using 'bins = 30'. Pick better value with 'binwidth'.
## 'stat_bin()' using 'bins = 30'. Pick better value with 'binwidth'.
```

Change of "anxiety" Usage Throughout the Novel

```r
plague %>%filter(!is.na(nrc_sent))%>% ggplot(aes(x = count)) + geom_histogram() + facet_wrap(~nrc_sent)
```

```
## Saving 6.5 x 4.5 in image
## `stat_bin()` using `bins = 30`. Pick better value with `binwidth`.
## `stat_bin()` using `bins = 30`. Pick better value with `binwidth`.
```

Change of "sentiment" Usage Throughout the Novel