

Soutenance du projet Seshat

Analyse de données, MAIN4



Seshat

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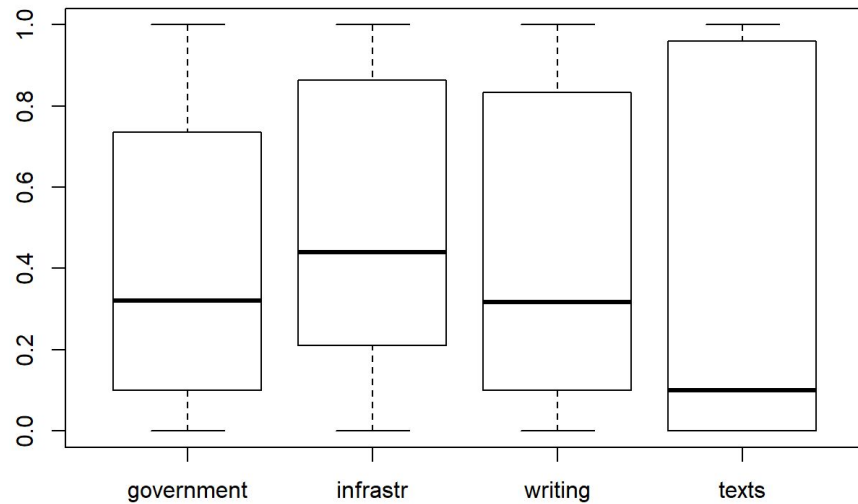
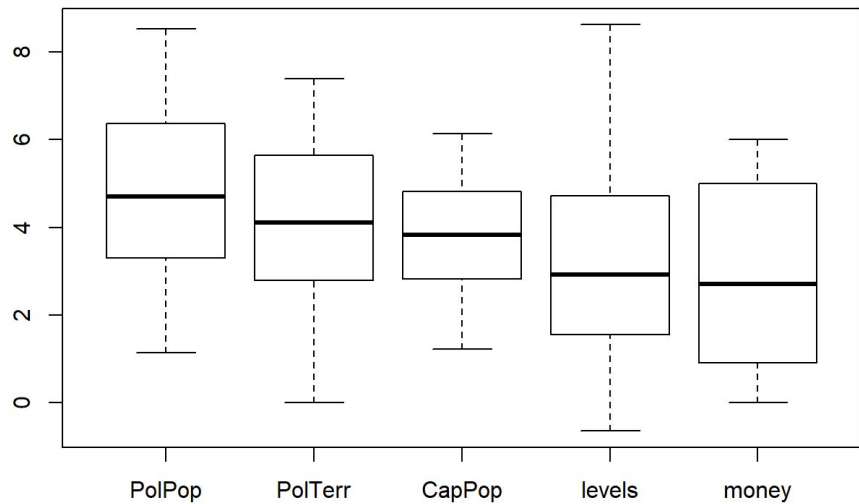
- Intro pres
- Variables
- Vue d'ensemble
- ACP
 - Explication
 - Projection
 - Contribution
 - Corrélations
- Classificaiton
 - Kmeans
 - Dendogramme
 - Comparaisons
- Classification temporelle
- Etude morale

Base Axiale

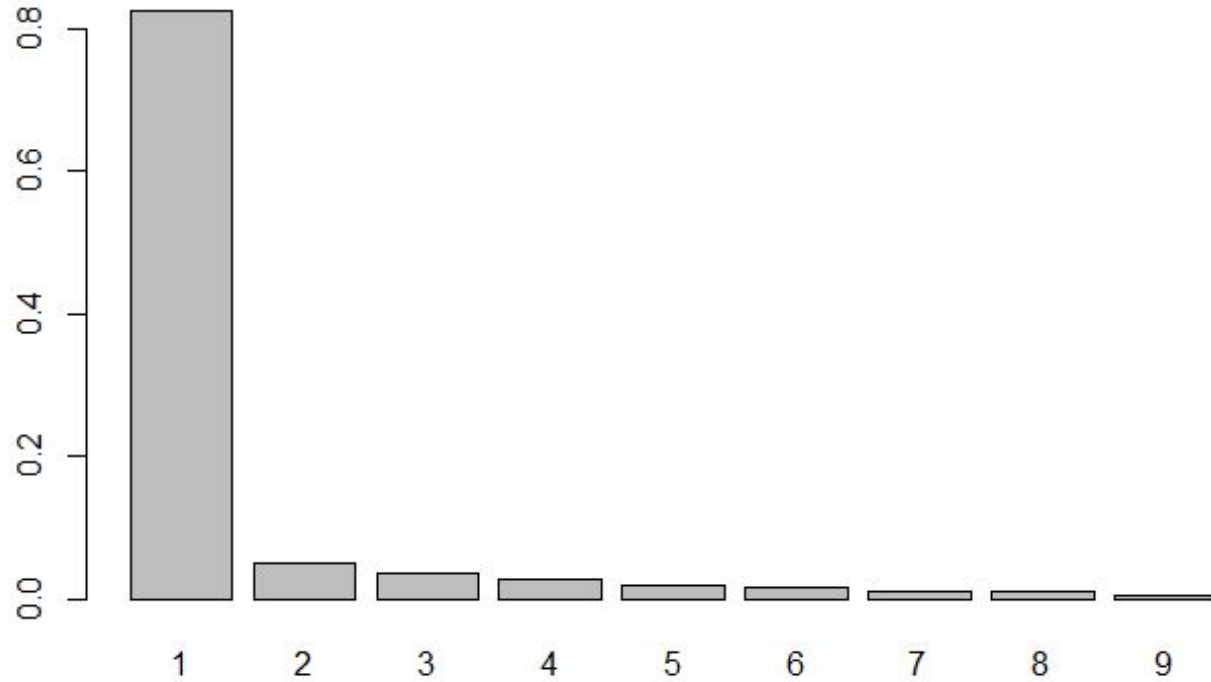
NGA	Big Island Hawaii
PolID	Hawaii1
Time	1000
PolPop	3.85491
PolTerr	4.11176
CapPop	2.28286

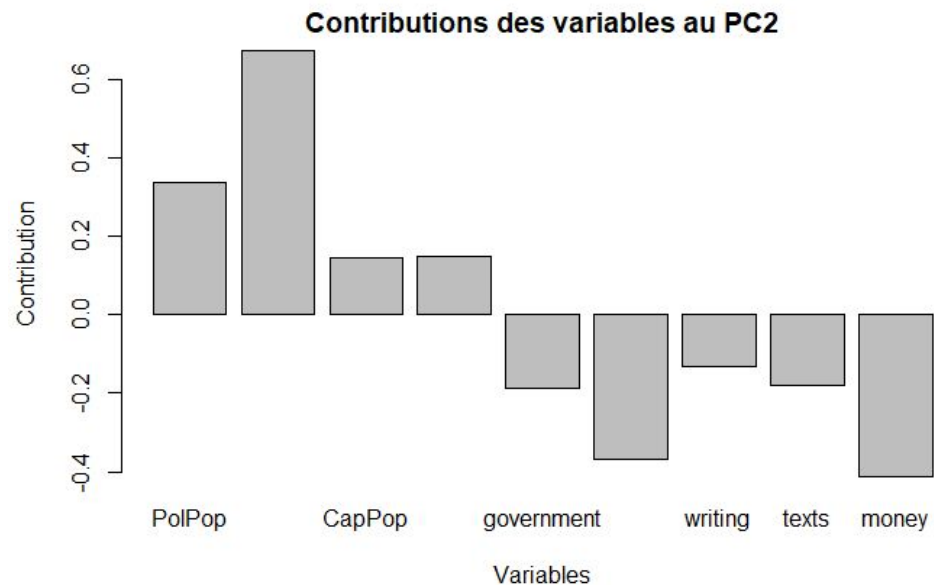
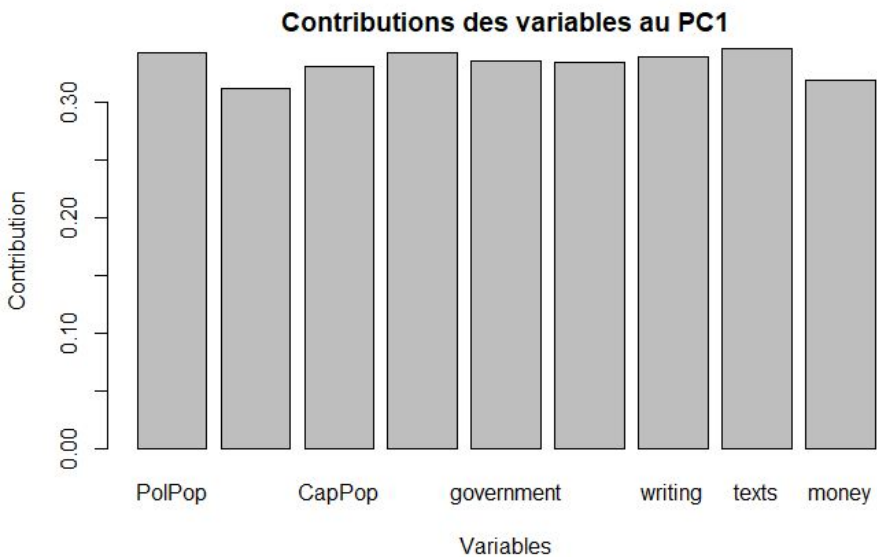
levels	-0.653777
government	0.0909091
infrastr	0.1
writing	0.1
texts	0.1
money	1.8

Nom de l'individu : *Big Island Hawaii (1000)*

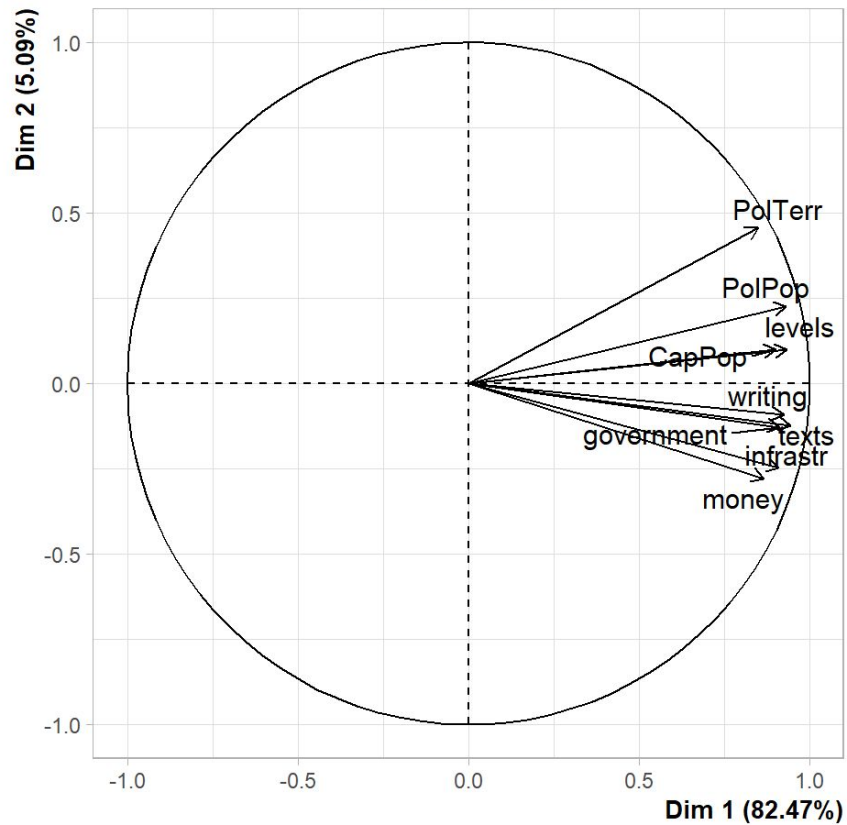


Explication des différentes composantes

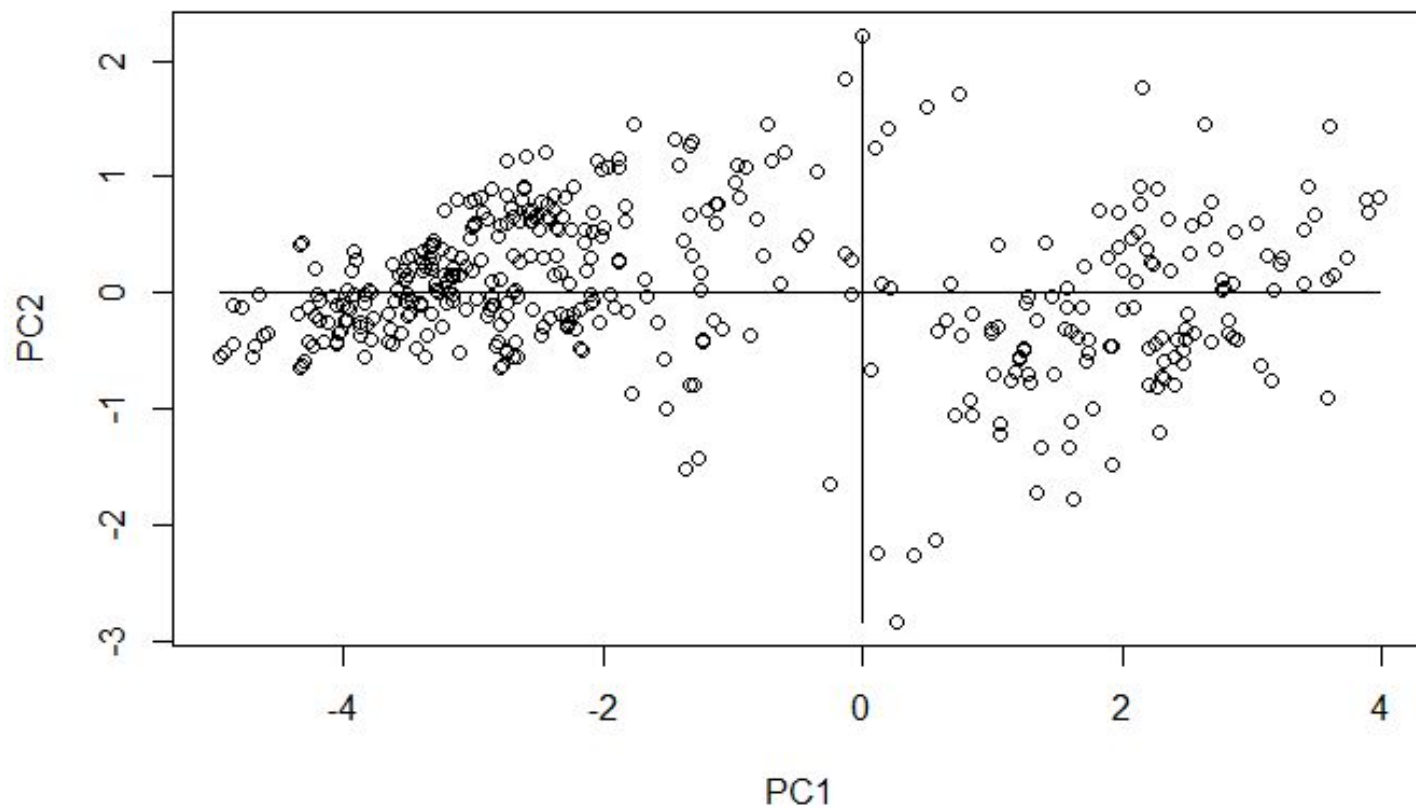


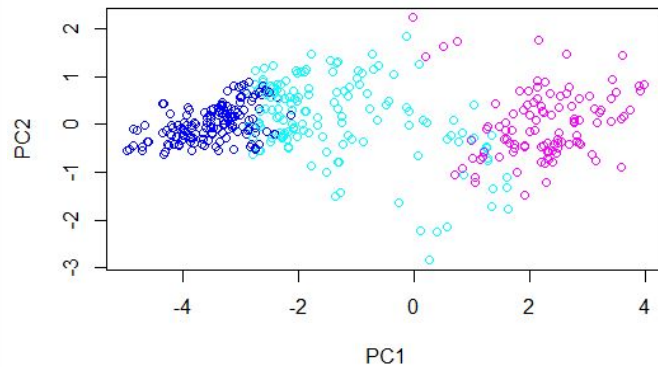
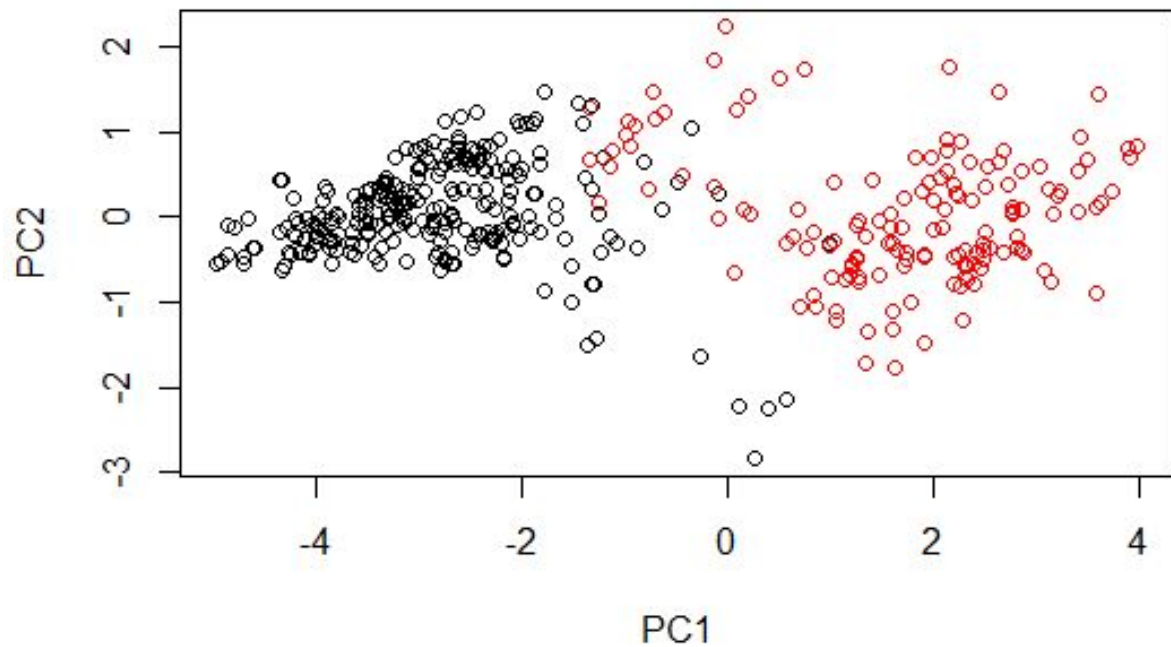


PCA graph of variables

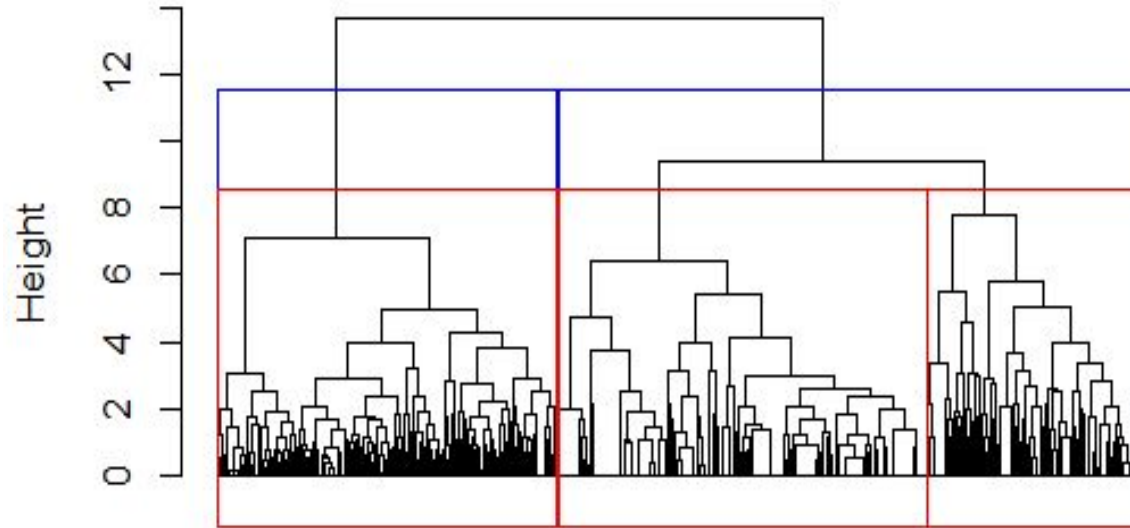


Projection sur les 2 premiers axes principaux

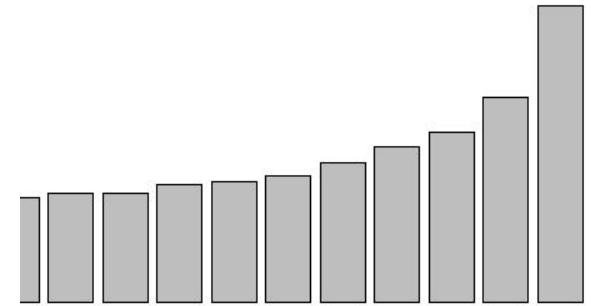


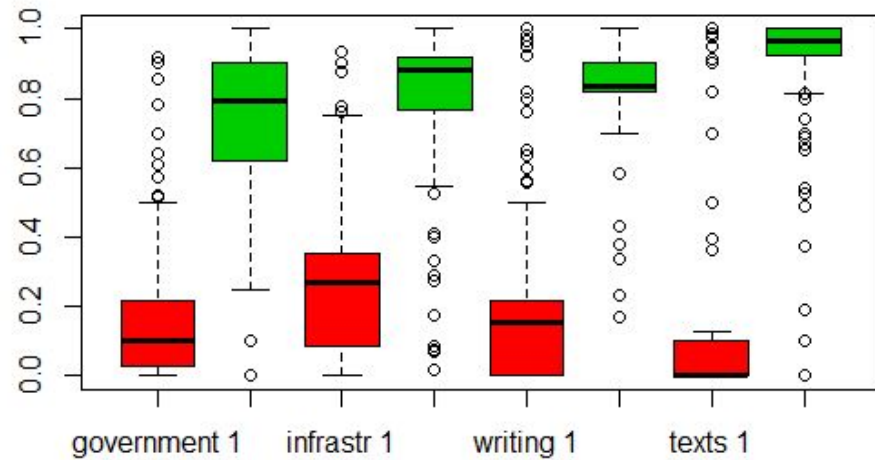
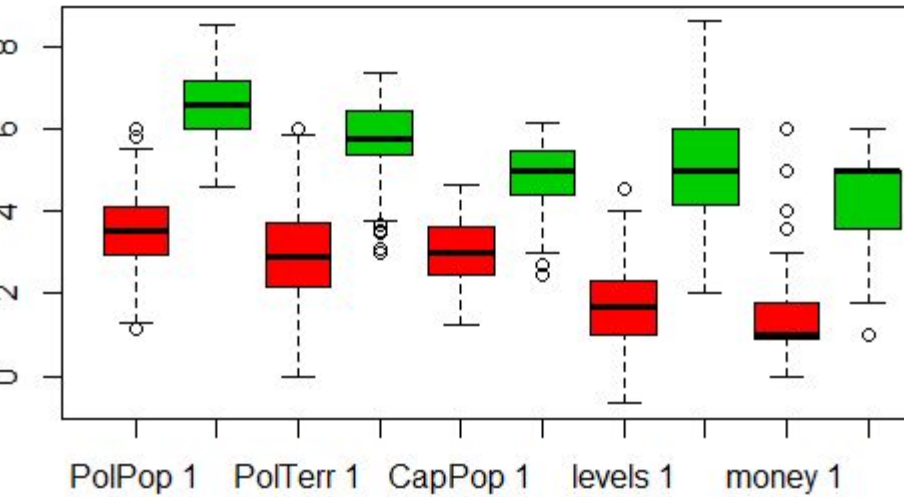


Cluster Dendrogram



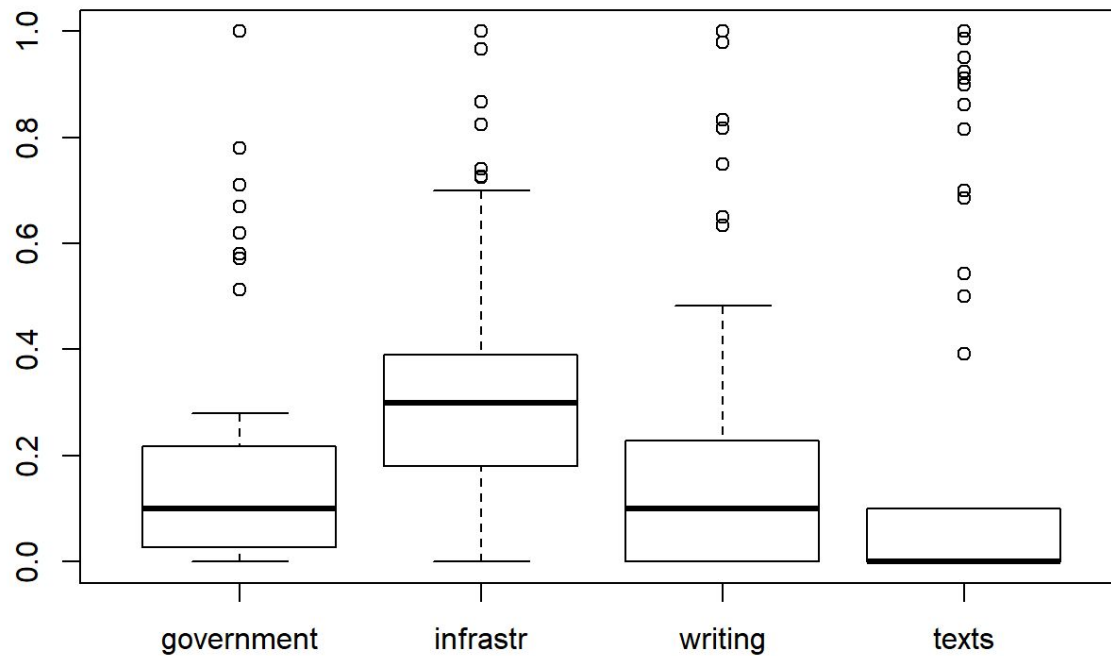
`dist(data)`
`hclust (*, "complete")`



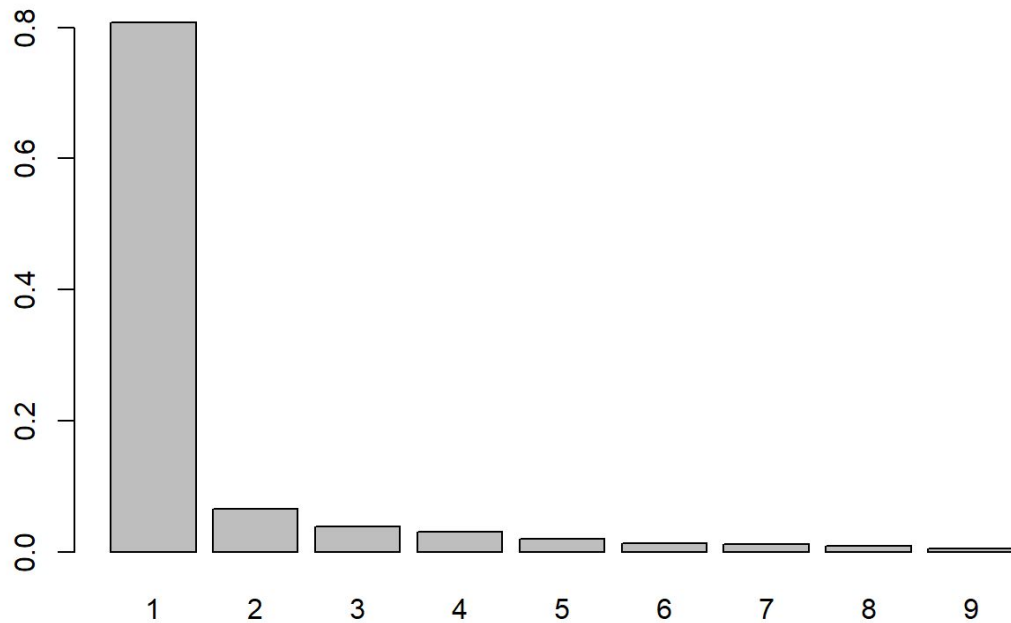


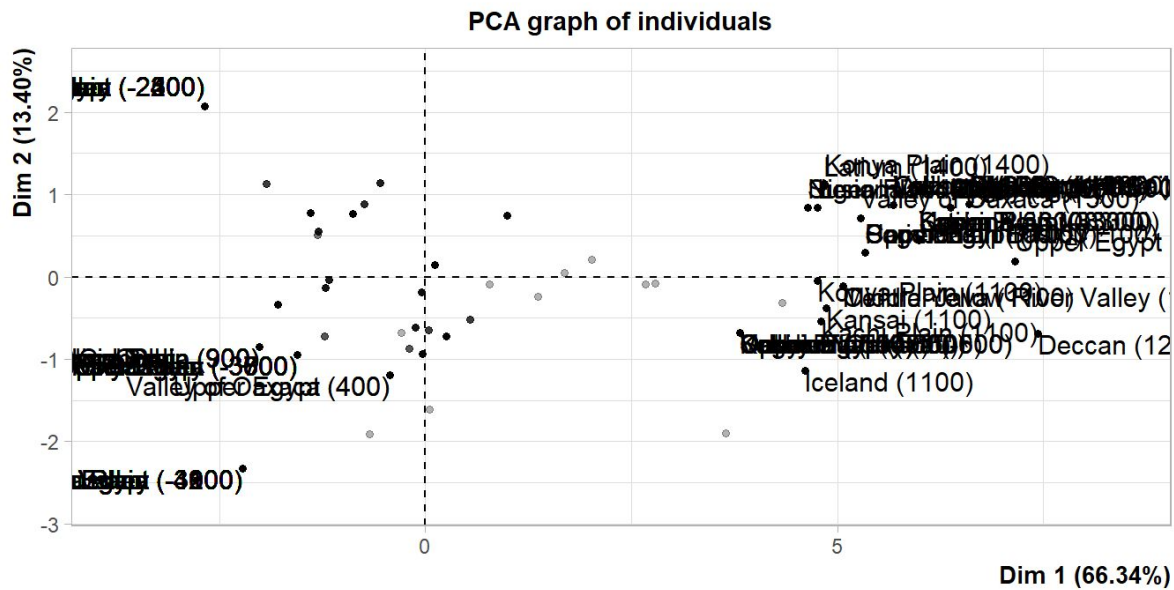
Analyse temporelle

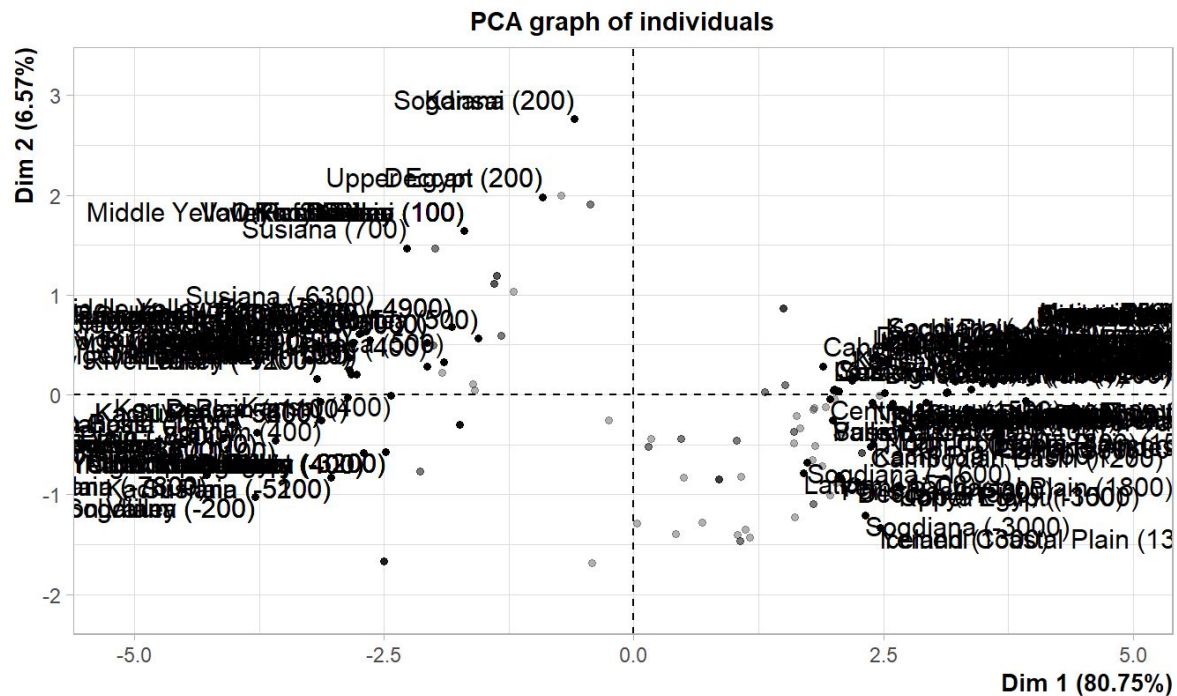
df1

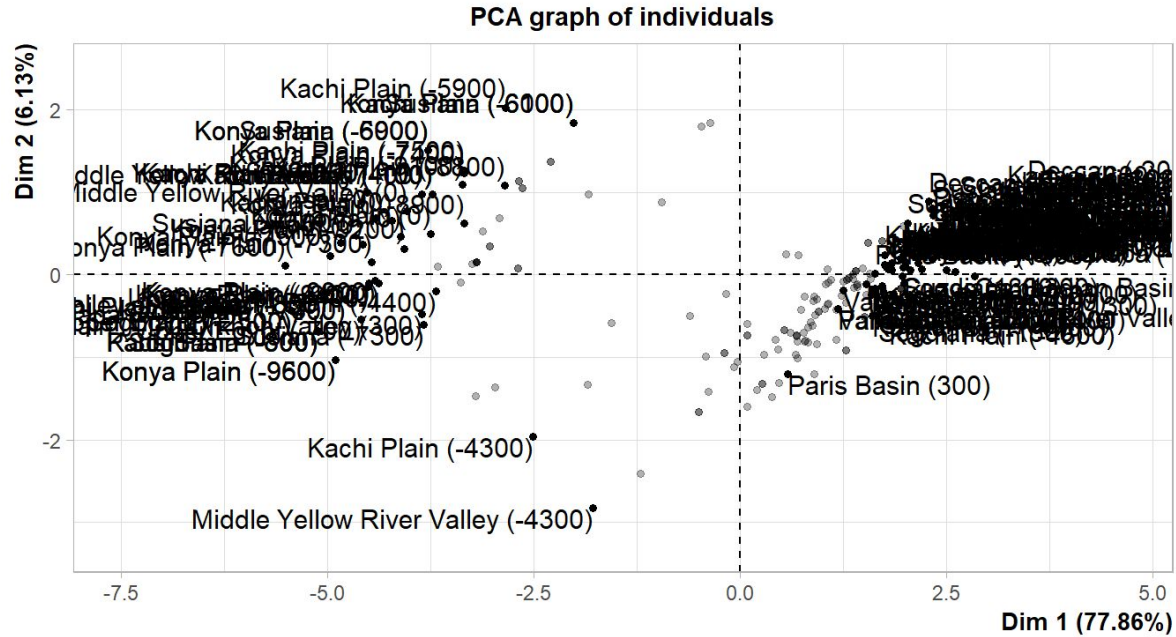


Explication des différentes composantes df2

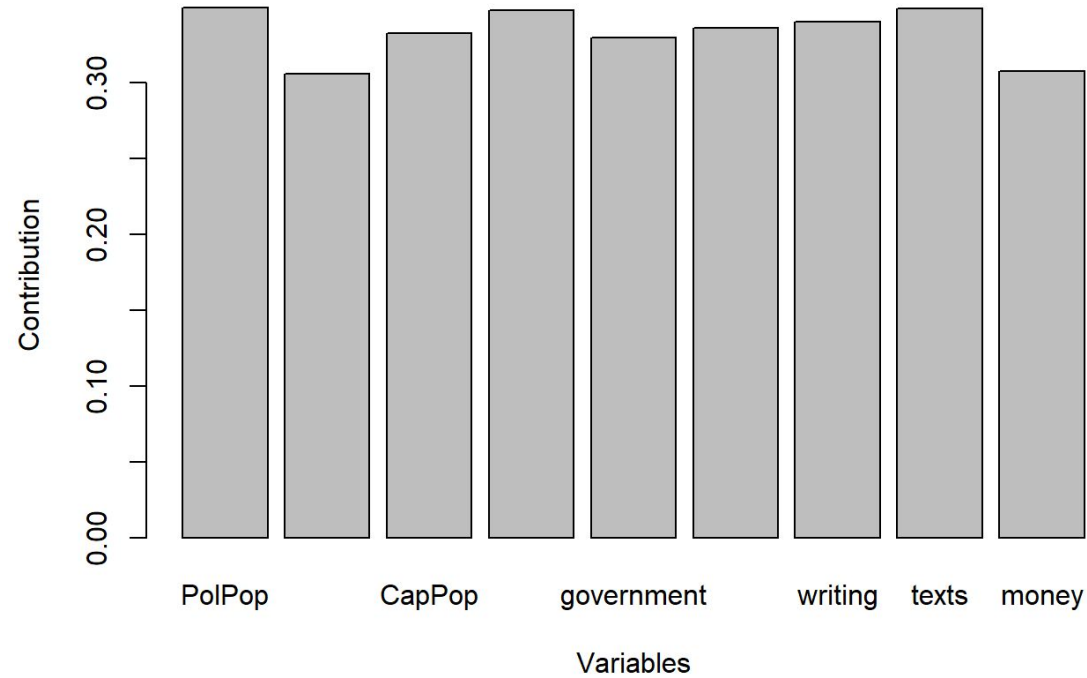




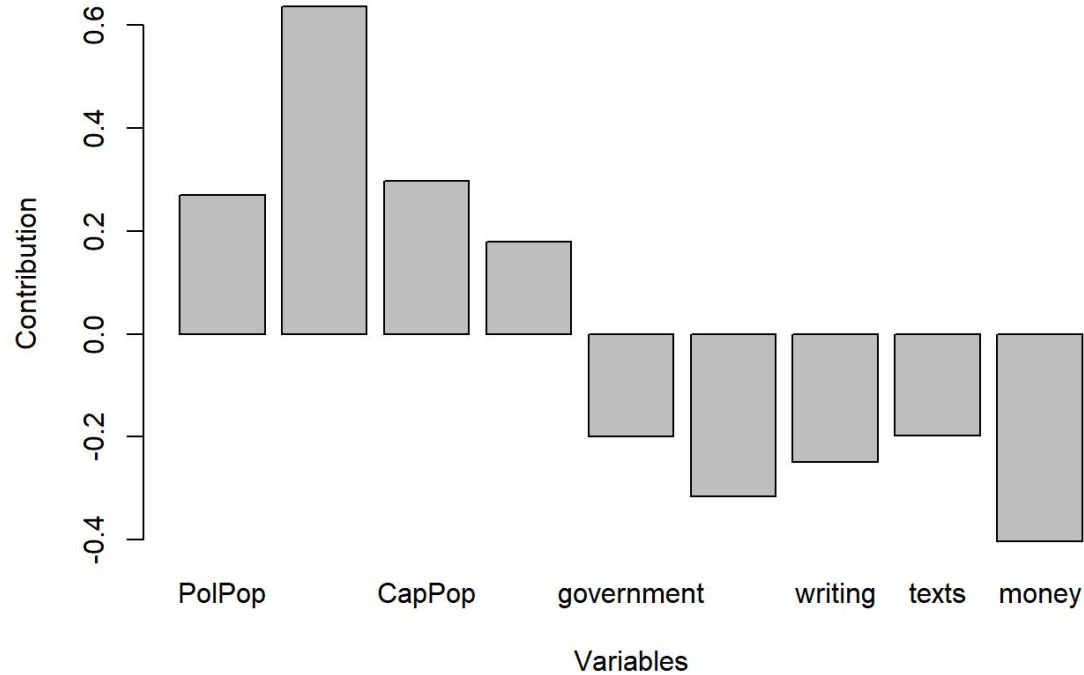




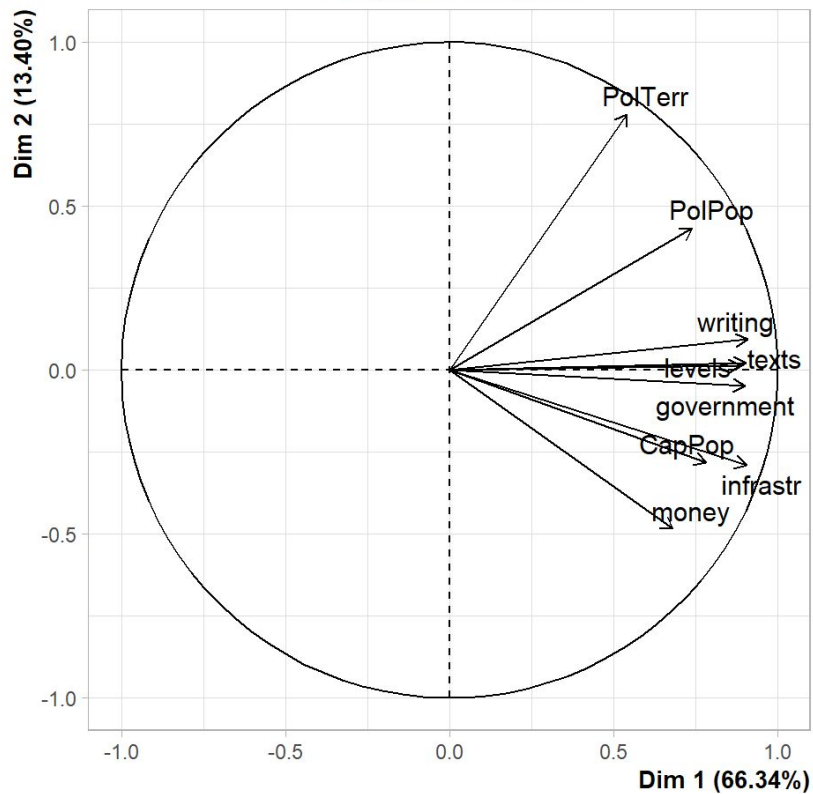
Contributions des variables au PC1 (df2)



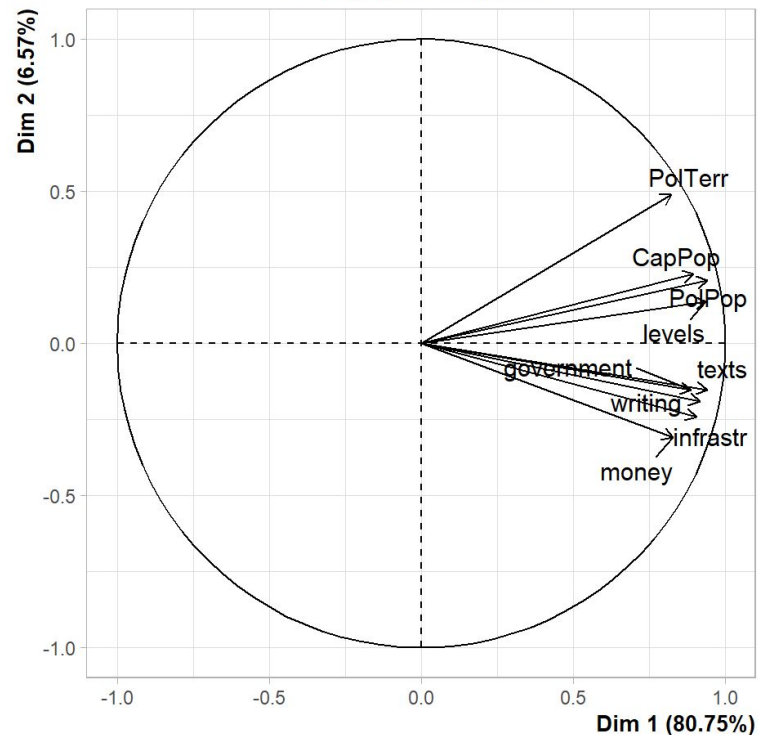
Contributions des variables au PC2 (df2)



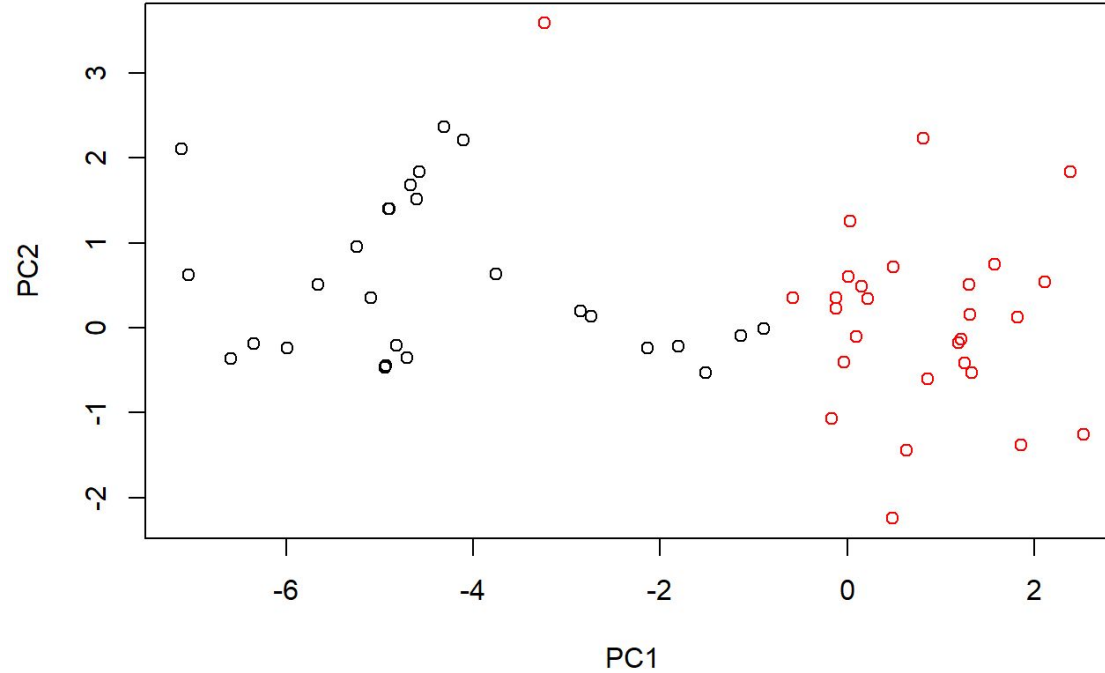
PCA graph of variables



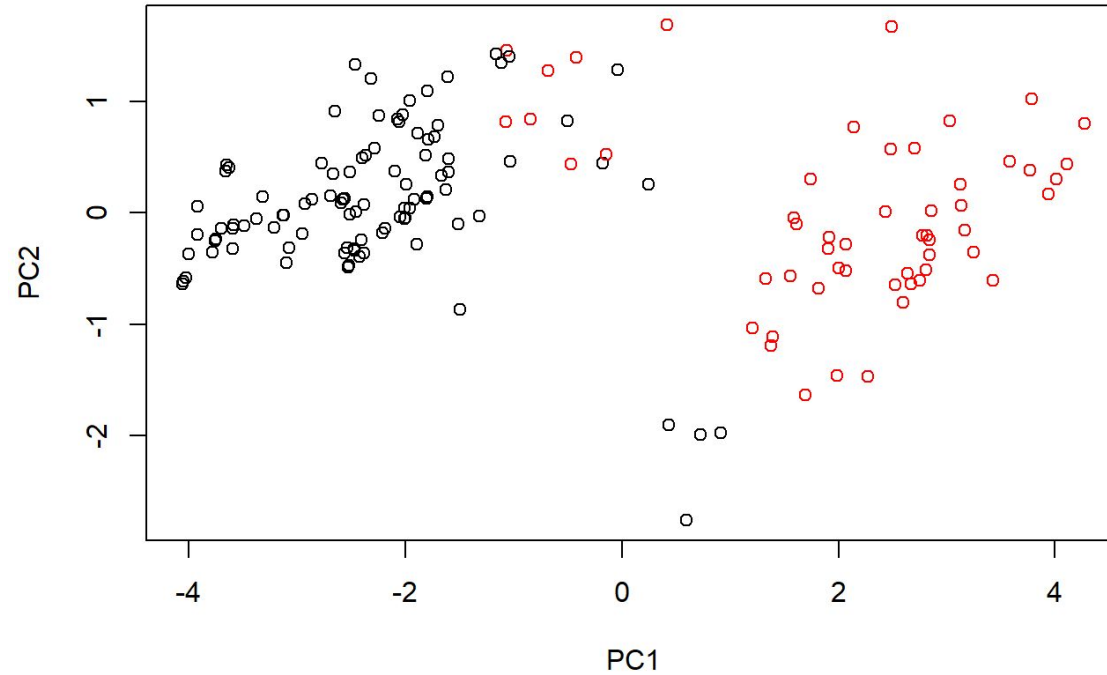
PCA graph of variables

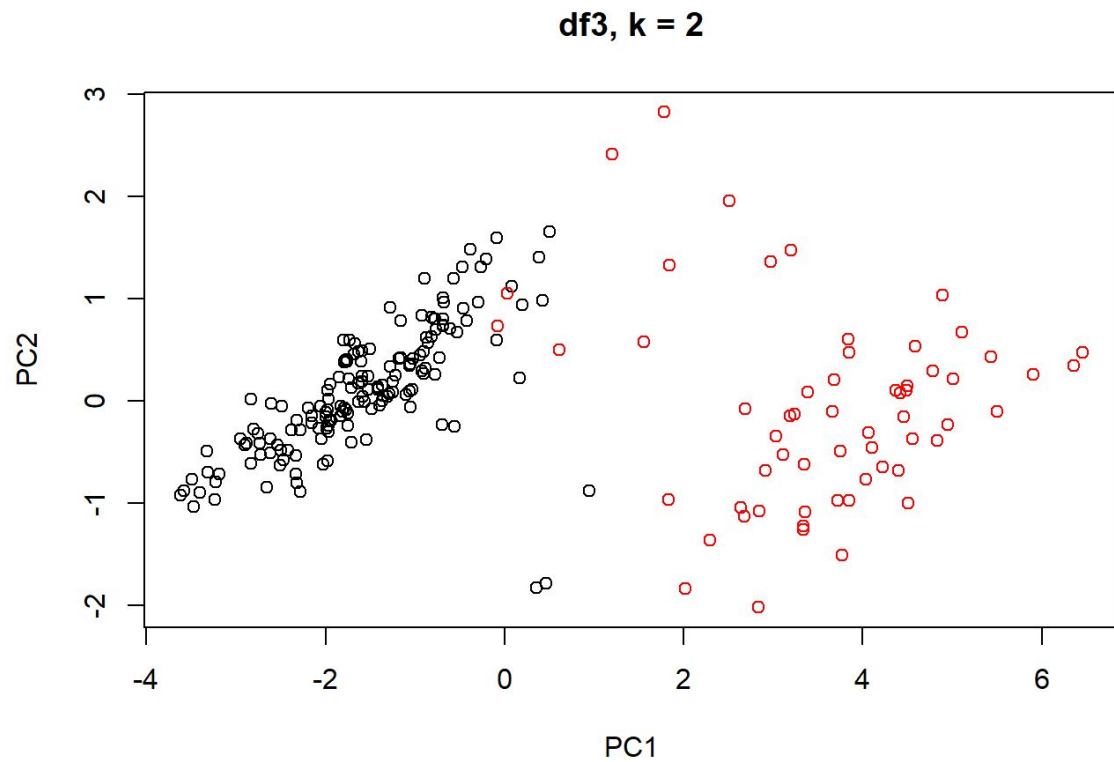


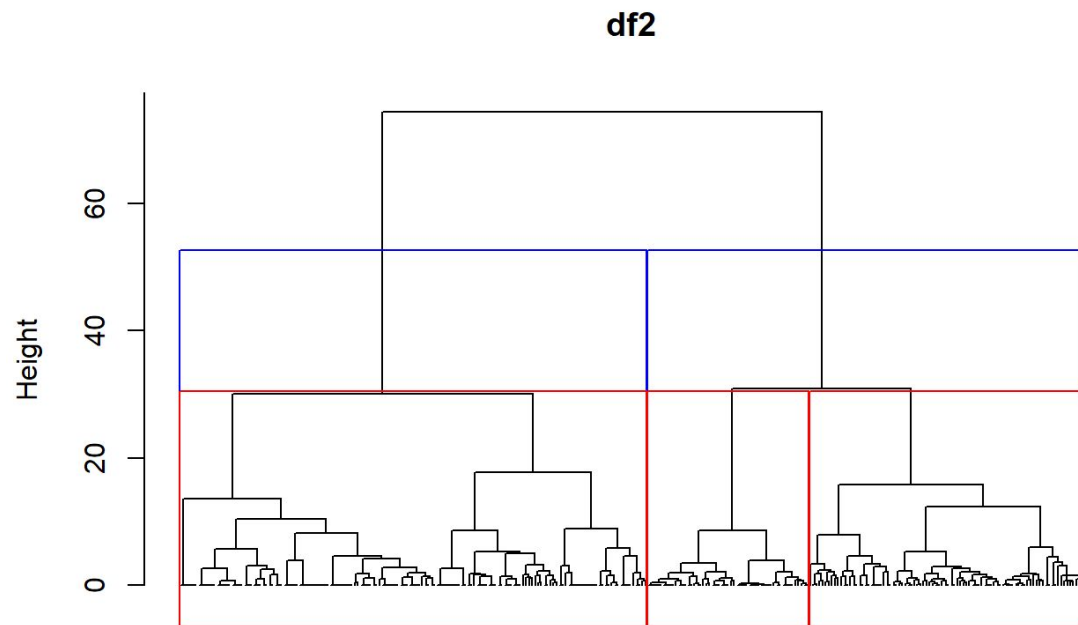
df1, k = 2



df2, k = 2

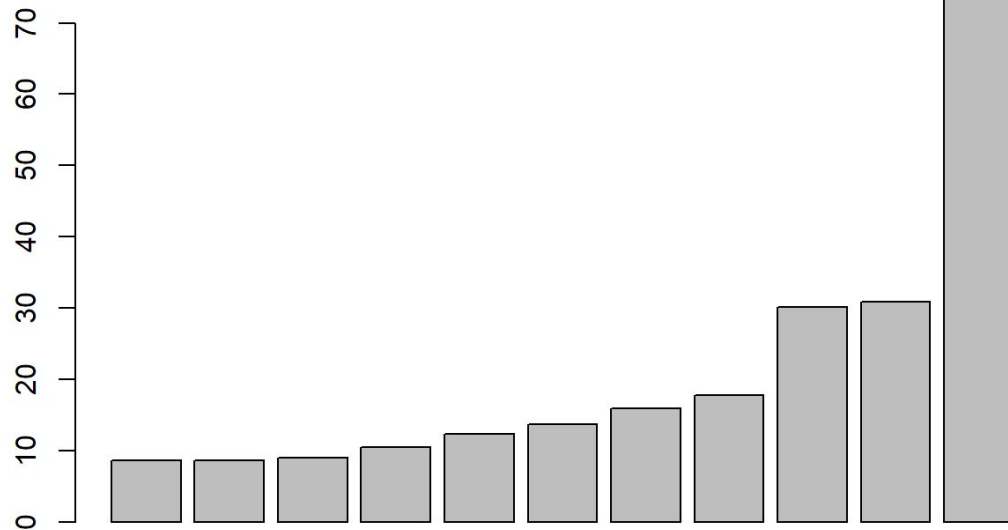


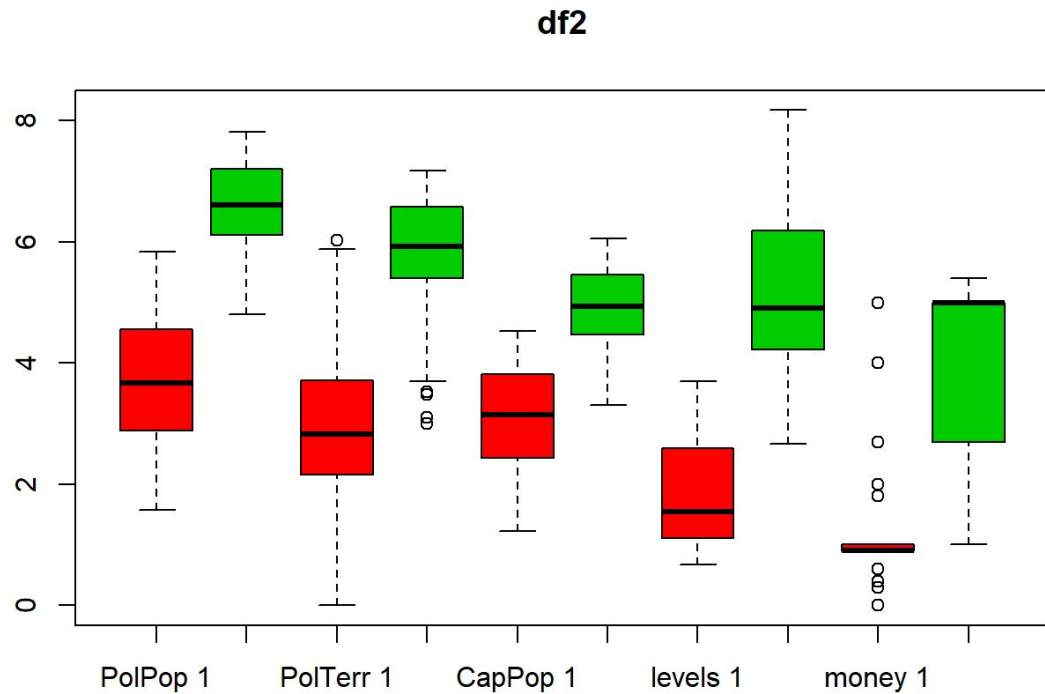




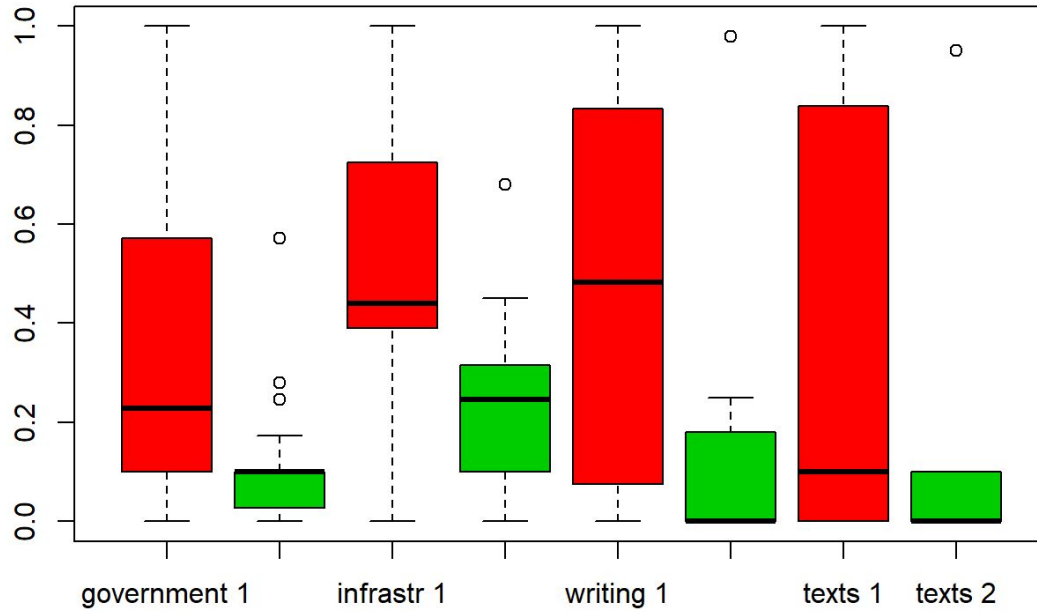
dist(df2)
hclust (*, "ward.D2")

df2





df1



1._Moralistic_punishment

2._Moralizing_norms

3._Promotion_of_prosociality

4._Omniscient_supernatural_beings

5._Rulers_not_gods

6._Equating_elites_and_commoners

7._Equating_rulers_and_commoners

8._Formal_legal_code

9._General_applicability_of_law

10._Constraint_on_executive

11._Full-time_bureaucrats

12._Impeachment

Base Morale

Résultats de la régression : Pertinence du modèle

```
## Analysis of Deviance Table
##
## Model 1: cluster ~ 1
## Model 2: cluster ~ X1._Moralistic_punishment + X2._Moralizing_norms +
##           X3._Promotion_of_prosociality + X4._Omniscient_supernatural_beings +
##           X5._Rulers_not_gods + X6._Equating_elites_and_commoners +
##           X7._Equating_rulers_and_commoners + X8._Formal_legal_code +
##           X9._General_applicability_of_law + X10._Constraint_on_executive +
##           X11._Full.time_bureaucrats + X12._Impeachment
##   Resid. Df Resid. Dev Df Deviance  Pr(>Chi)
## 1         302      295.89                < 2.2e-16 ***
## 2         290      190.92  12    104.97
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

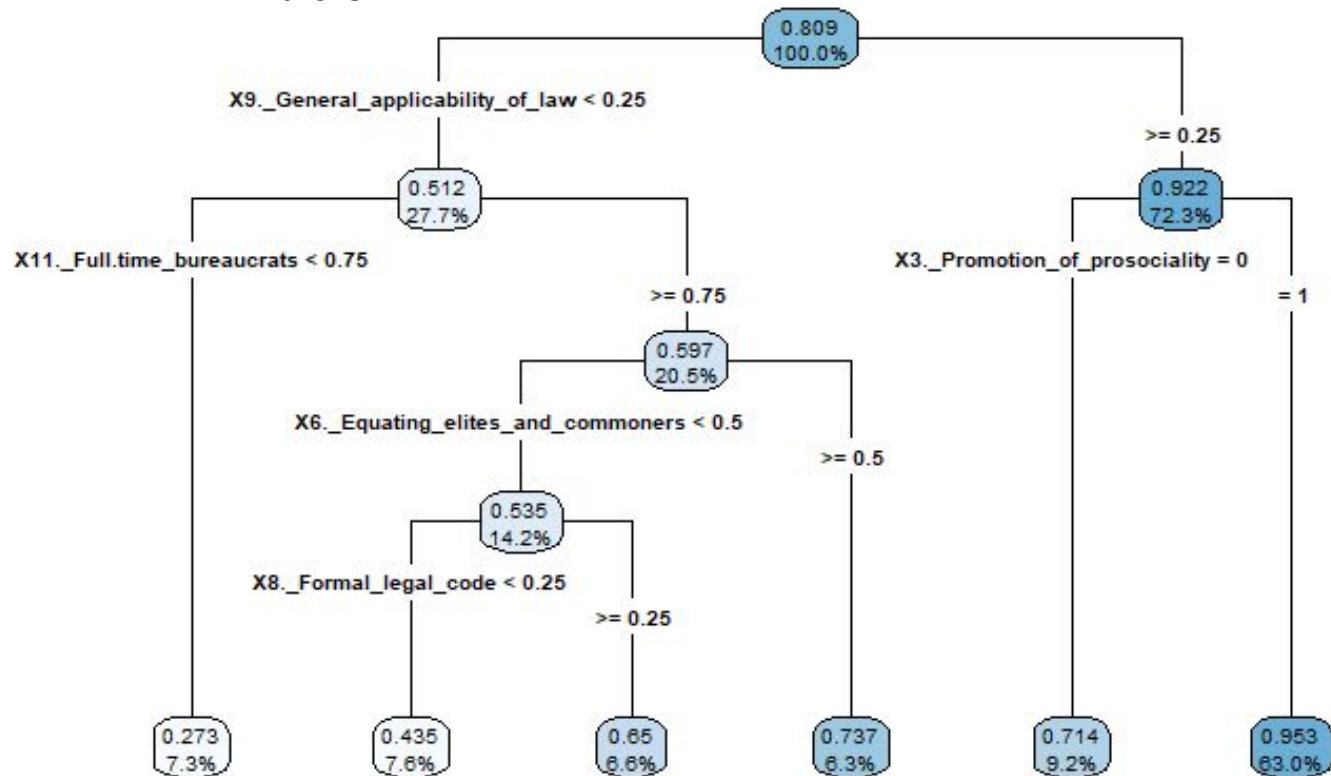
Résultats de la régression : Explication

```
## Coefficients:
##                                     Estimate Std. Error z value Pr(>|z|)
## (Intercept)                      -0.9801     0.4426  -2.214 0.026803 *
## X1._Moralistic_punishment        -2.2834     0.8484  -2.691 0.007117 **
## X2._Moralizing_norms             -0.5112     0.6930  -0.738 0.460695
## X3._Promotion_of_prosociality      1.4368     0.5674   2.532 0.011331 *
## X4._Omniscient_supernatural_beings 2.4379     1.2431   1.961 0.049853 *
## X5._Rulers_not_gods              -0.4511     0.6884  -0.655 0.512308
## X6._Equating_elites_and_commoners -0.2055     0.8437  -0.244 0.807553
## X7._Equating_rulers_and_commoners  2.1845     0.9698   2.253 0.024285 *
## X8._Formal_legal_code              0.9356     0.6282   1.489 0.136373
## X9._General_applicability_of law   2.4217     0.7191   3.368 0.000758 ***
## X10._Constraint_on_executive      -1.5355     0.7283  -2.108 0.035000 *
## X11._Full.time_bureaucrats         0.6503     0.5234   1.243 0.214009
## X12._Impeachment                  1.0425     0.8235   1.266 0.205531
```

Résultats de la régression : Odds ratios

##	(Intercept)	X1._Moralistic_punishment
##	0.3752810	0.1019414
##	X2._Moralizing_norms	X3._Promotion_of_prosociality
##	0.5997592	4.2074037
##	X4._Omniscient_supernatural_beings	X5._Rulers_not_gods
##	11.4491608	0.6369282
##	X6._Equating_elites_and_commoners	X7._Equating_rulers_and_commoners
##	0.8142326	8.8862247
##	X8._Formal_legal_code	X9._General_applicability_of_law
##	2.5488605	11.2649718
##	X10._Constraint_on_executive	X11._Full.time_bureaucrats
##	0.2153397	1.9161609
##	X12._Impeachment	
##	2.8362184	

Arbre CART





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