

# Everybody Wants to Rule the World

Themes in Constitutional Texts

## Comparative Constitutions Project

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

Afghanistan 2004 [Compare](#) ☐

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Albania 1998 (rev. 2016) [Compare](#) ☐

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Algeria 1989 (reinst. 1996, rev. 2016) [Compare](#) ☐

**API  
Scraping  
BeautifulSoup**



**206 different constitutions**

**Documents = 175,000 clauses**

	Clause	Country	Polarity	Stemmed_Clause	Subjectivity	Year_Amended	Year_Enacted
0	In the name of Allah, the Most Beneficent, th...	Afghanistan_2004	0.500000	in the name of allah the most benefic the mos...	0.500000	None	2004
1	Praise be to Allah, the Cherisher and Sustaine...	Afghanistan_2004	0.000000	prais be to allah the cherish and sustain of w...	0.066667	None	2004
2	We the people of Afghanistan:	Afghanistan_2004	0.000000	We the peopl of afghanistan	0.000000	None	2004
3	Believing firmly in Almighty God, relying on H...	Afghanistan_2004	-0.200000	believ firmli in almighty god reli on hi divin...	0.400000	None	2004
4	Realizing the previous injustices, miseries an...	Afghanistan_2004	-0.166667	realiz the previou injustic miseri and innumer...	0.166667	None	2004

# Topic Models

**TFIDF / NMF (Numeric) and CountVectorizer / LDA (Probabilistic)**

**Hypothesized small number of topics [5-20]**

**Visually inspected resulting topics from varying parameters**

**Final Selection was NMF with 10 topics**

```
tfidf = TfidfVectorizer(stop_words='english', min_df= .01, ngram_range=(1,3))  
bag_tfidf = tfidf.fit_transform(np.array(df_cons['Stemmed_Clause']))  
nmf_model = NMF(n_components=10, random_state=47, beta_loss='frobenius')  
nmf_topics = nmf_model.fit_transform(bag_tfidf)  
bag_tfidf.shape
```

```
(176787, 254)
```

### Judicial Branch

court suprem judg suprem court appeal high high court justic jurisdict court shall  
constitut court decis proceed chief judici order shall case tribun befor constitut  
determin administr rule appoint crimin matter question refer

### Personal Rights

right freedom protect citizen human ha guarante person everi properti duti equal  
exercis polit public social hi shall individu respect work educ secur chapter peopl  
inform legal cultur limit oblig

# Most Similar Clause from Another Country's Constitution

## From NMF document - topic matrix, use cosine similarity

```
similar_clause(df_cons,nmf_topics,168966)
```

United\_States\_of\_America\_1992

A well regulated Militia, being necessary to the security of a free State, the right of the people to keep and bear Arms, shall not be infringed.

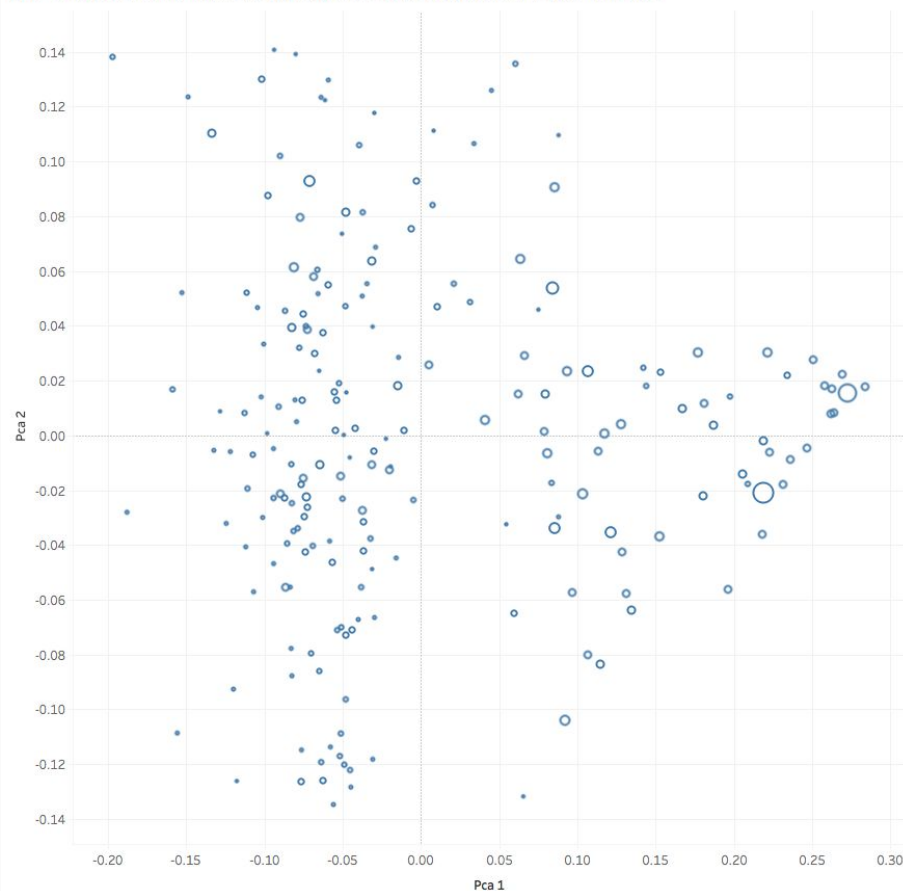
Most Similar Clause from Another Country

Mozambique\_2007

2. With a view to guaranteeing the right to the environment within the framework of sustainable development, the State shall adopt policies aimed at:

# Aggregate the Clauses back to Constitutions

Two Components PCA for Aggregated Constitution 10-Topic Vectors

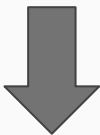


**Normalize all the clause  
/ topic vectors**

**Sum all clause vectors  
to go back to 206  
constitutions**

```
topic_weights_df.loc['Japan_1946', 'List_of_Neighbors'][0:10]  
  
['Japan_1946',  
 'Jordan_2016',  
 'Norway_2016',  
 'Liechtenstein_2011',  
 'Philippines_1987',  
 'Bhutan_2008',  
 'Netherlands_2008',  
 'Denmark_1953',  
 'Uruguay_2004',  
 'Thailand_2017']
```

**Less rigid definition of clause**



**More granular topics and more vocabulary**

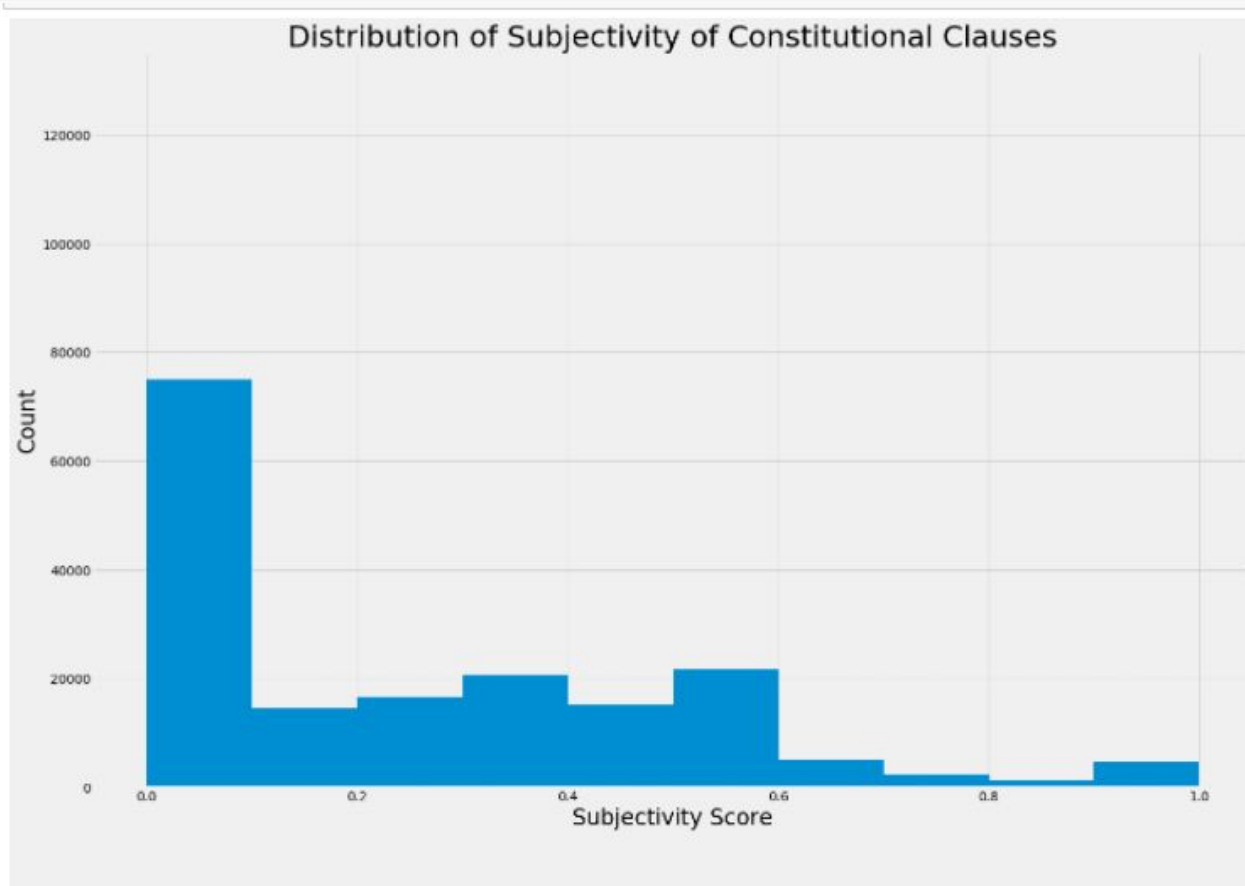
**Dealing with the time aspect (documents included amendments)**

# Appendix





# TextBlob Subjectivity Score Distribution in Clauses



# Most Similar Clause from Another Country's Constitution

## From NMF document - topic matrix, use cosine similarity

```
similar_clause(df_cons,nmf_topics,84194)
```

Mexico\_2015

Education provided by the State shall develop harmoniously all human abilities and will stimulate in pupils the love for the country, respect for human rights and the principles of international solidarity, independence and justice.

Most Similar Clause from Another Country

Eritrea\_1997

1. The State shall strive to create opportunities to ensure the fulfillment of citizens' rights to social justice and economic development and to fulfill their material and spiritual needs.