In [19]:

```
#package seaborn has used for data visualization, pandas, numpy for data processing and manuipulat
ions.
import pandas as pd
import seaborn as sns
import numpy as np
import matplotlib.pyplot as plt
sns.set()
```

In [20]:

```
nobel = pd.read_csv("F:/DATA SCIENCE/DATA/archive.csv",parse_dates=True)
```

In [21]:

```
nobel.head(n=2)
```

Out[21]:

	Year	Category	Prize	Motivation	Prize Share	Laureate ID	Laureate Type	Full Name	Birth Date	Birth City	Birth Country	Sex	Organization Name
0	1901	Chemistry	The Nobel Prize in Chemistry 1901	"in recognition of the extraordinary services ...	1/1	160	Individual	Jacobus Henricus van 't Hoff	1852-08-30	Rotterdam	Netherlands	Male	Berlin University
1	1901	Literature	The Nobel Prize in Literature 1901	"in special recognition of his poetic composit...	1/1	569	Individual	Sully Prudhomme	1839-03-16	Paris	France	Male	NaN

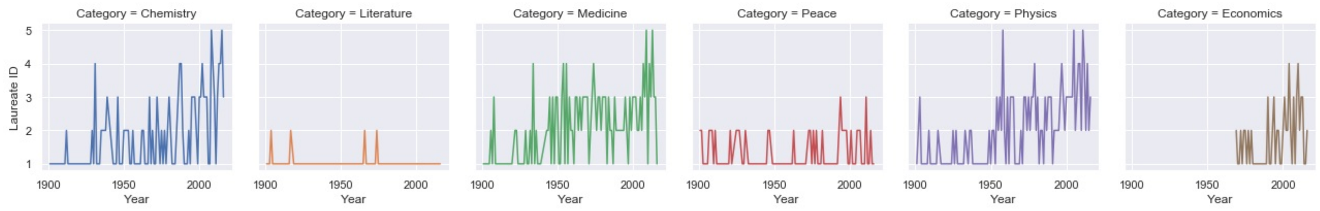
In [22]:

```
nobel.info()
```

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 969 entries, 0 to 968
Data columns (total 18 columns):
Year                    969 non-null int64
Category                969 non-null object
Prize                   969 non-null object
Motivation              881 non-null object
Prize Share             969 non-null object
Laureate ID             969 non-null int64
Laureate Type           969 non-null object
Full Name               969 non-null object
Birth Date              940 non-null object
Birth City              941 non-null object
Birth Country           943 non-null object
Sex                     943 non-null object
Organization Name       722 non-null object
Organization City       716 non-null object
Organization Country    716 non-null object
Death Date              617 non-null object
Death City              599 non-null object
Death Country           605 non-null object
dtypes: int64(2), object(16)
memory usage: 75.7+ KB
```

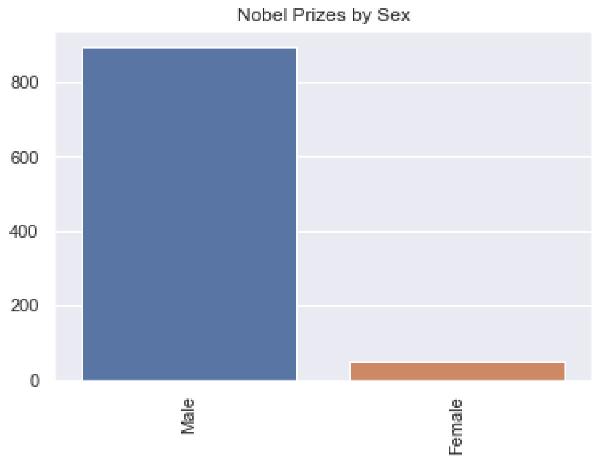
In [23]:

```
#Nobel Prizes by Category from 1901 to 2016
year_cat=nobel.groupby(['Year','Category'])['Laureate ID'].count().reset_index()
year_cat
g = sns.FacetGrid(year_cat, col='Category', hue='Category')
g = g.map(plt.plot, 'Year', 'Laureate ID')
```



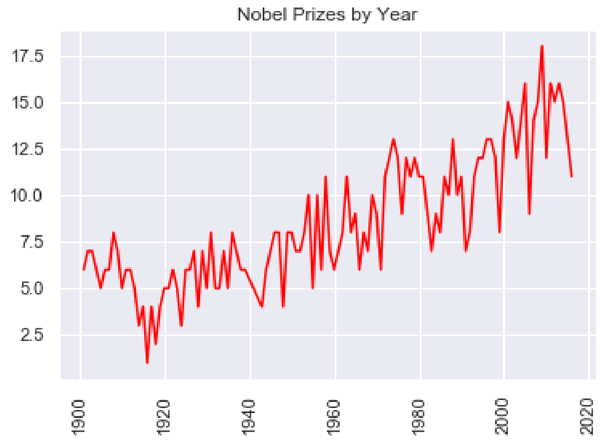
In [24]:

```
#  In this section plotting the nobel prize by sex, country and category
sex=nobel['Sex'].value_counts()
sns.barplot(x=sex.index,y=sex.values)
plt.xticks(rotation=90)
plt.title('Nobel Prizes by Sex')
plt.show()
```



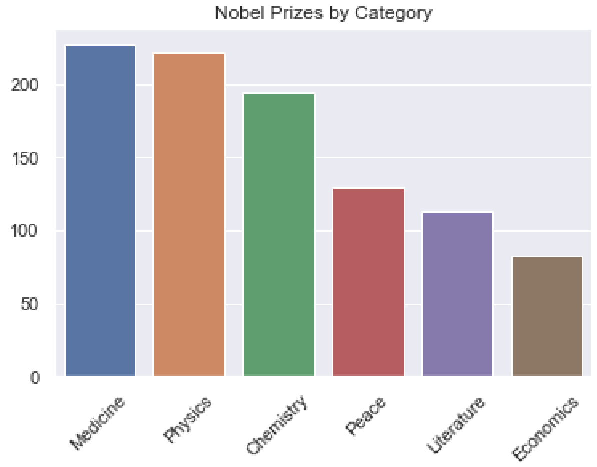
In [25]:

```
#Trend in Nobel Prize
year=nobel['Year'].value_counts()

sns.lineplot(x=year.index,y=year.values,color='red')

plt.xticks(rotation=90)
plt.title('Nobel Prizes by Year')
plt.show()
```



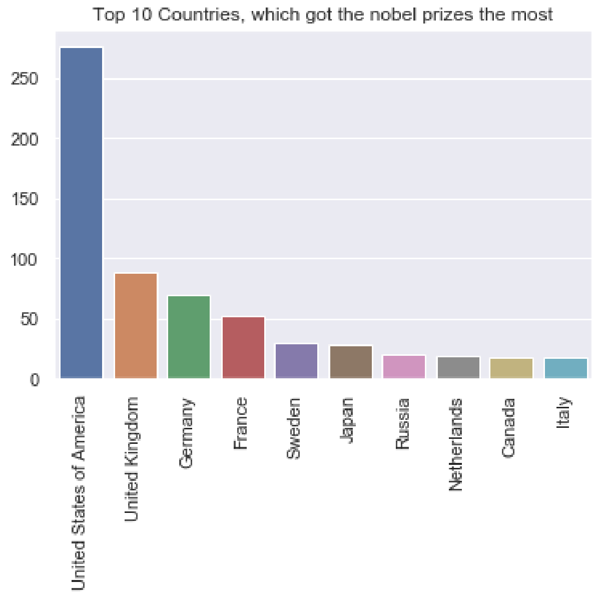
In [26]:

```
#Categorywise - Number of Nobel Prizes
cat= nobel['Category'].value_counts()
sns.barplot(x=cat.index,y=cat.values)
plt.xticks(rotation=45)
plt.title('Nobel Prizes by Category')
plt.show()
plt.show()
```



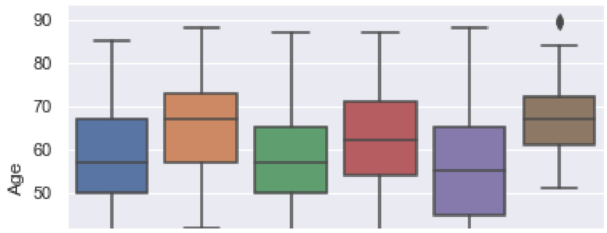
In [27]:

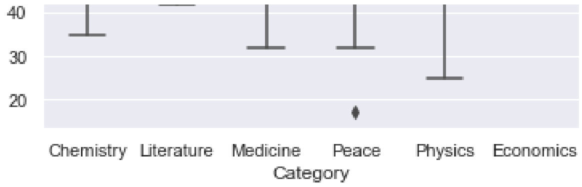
```
#Countrywise - Which Country got the most
ctry=nobel['Birth Country'].value_counts().head(10)
sns.barplot(x=ctry.index,y=ctry.values)
plt.xticks(rotation=90)
plt.title('Top 10 Countries, which got the nobel prizes the most')
plt.show()
```



In [28]:

```
#Distribution of Age of Winners
nobel['Birth Year'] = nobel['Birth Date'].str[0:4] #first four no. of birth date
nobel['Birth Year'] = nobel['Birth Year'].apply(pd.to_numeric) #converting argument to numeric
nobel['Age']=nobel['Year']- nobel['Birth Year']
sns.boxplot(data=nobel,
         x='Category',
         y='Age')

plt.show()
```





In [29]:

```
#Oldest Nobel Prize Winner
old=nobel.nlargest(5,'Age')
display(old[['Category','Full Name','Birth Country','Sex','Age']])
```

	Category	Full Name	Birth Country	Sex	Age
825	Economics	Leonid Hurwicz	Russia	Male	90.0
904	Economics	Lloyd S. Shapley	United States of America	Male	89.0
770	Physics	Raymond Davis Jr.	United States of America	Male	88.0
828	Literature	Doris Lessing	Persia (Iran)	Female	88.0
390	Medicine	Peyton Rous	United States of America	Male	87.0

In [30]:

```
#Youngest Nobel Prize Winner
young=nobel.nsmallest(5,'Age')
display(young[['Category','Full Name','Birth Country','Sex','Age']])
```

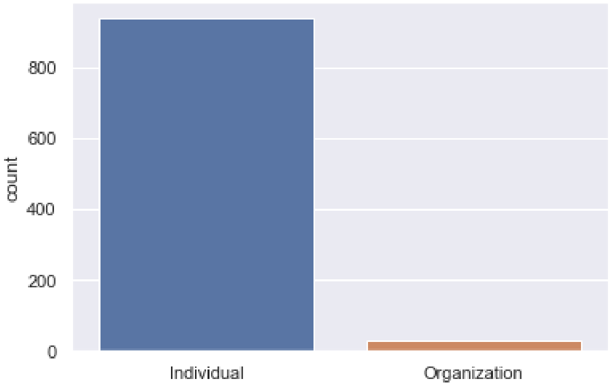
	Category	Full Name	Birth Country	Sex	Age
940	Peace	Malala Yousafzai	Pakistan	Female	17.0
86	Physics	William Lawrence Bragg	Australia	Male	25.0
169	Physics	Werner Karl Heisenberg	Germany	Male	31.0
174	Physics	Paul Adrien Maurice Dirac	United Kingdom	Male	31.0
194	Physics	Carl David Anderson	United States of America	Male	31.0

In [31]:

```
# life span calculation
nobel['D Year'] = nobel['Death Date'].str[0:4]
nobel['D Year'] = nobel['D Year'].replace(to_replace="nan", value=0)
nobel['D Year'] = nobel['D Year'].apply(pd.to_numeric)
nobel['lifespan']=nobel['D Year']- nobel['Birth Year']
```

In [32]:

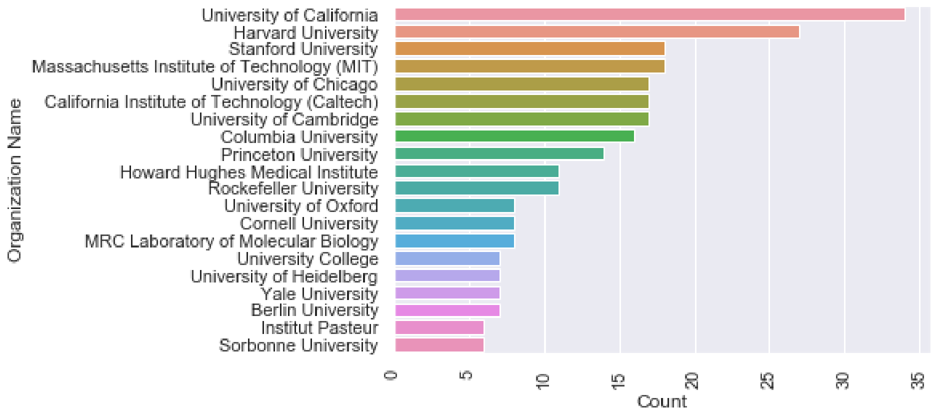
```
#Laureate Types
sns.countplot(nobel['Laureate Type'])
plt.show()
```



Laureate Type

In [33]:

```
#Organization Toppers
#Plotting the top organization , which won the nobel prize the most.

org = nobel['Organization Name'].value_counts().reset_index().head(20)

sns.barplot(x='Organization Name',y='index',data=org)
plt.xticks(rotation=90)
plt.ylabel('Organization Name')
plt.xlabel('Count')
plt.show()
```



In [ ]: