In [1]:
```
import pymongo
import time
import pandas as pd
myclient = pymongo.MongoClient("mongodb://localhost:27017/")
mydb = myclient["IMDB"]
members = mydb["members"]
movies=mydb["movies"]
```

In [2]:
```
import seaborn as sns
import matplotlib.pyplot as plt
```

In [11]:
```
myquery1 = [{
            '$match': {
            'numvotes': {
                '$gt': 10000
            }
        }},
    {
        '$unwind': '$genres'
    }, {
        '$project': {
            'genres': 1,
            'avgrating': 1
        }
    }
]

# result.drop()

mydoc = movies.aggregate(myquery1)
```

In [12]:
```
df=pd.DataFrame(list(mydoc))
```

In [13]:
```
df.head()
```

Out[13]:

	_id	avgrating	genres
0	12	7.5	Short
1	12	7.5	Documentary
2	417	8.2	Action
3	417	8.2	Comedy
4	417	8.2	Adventure

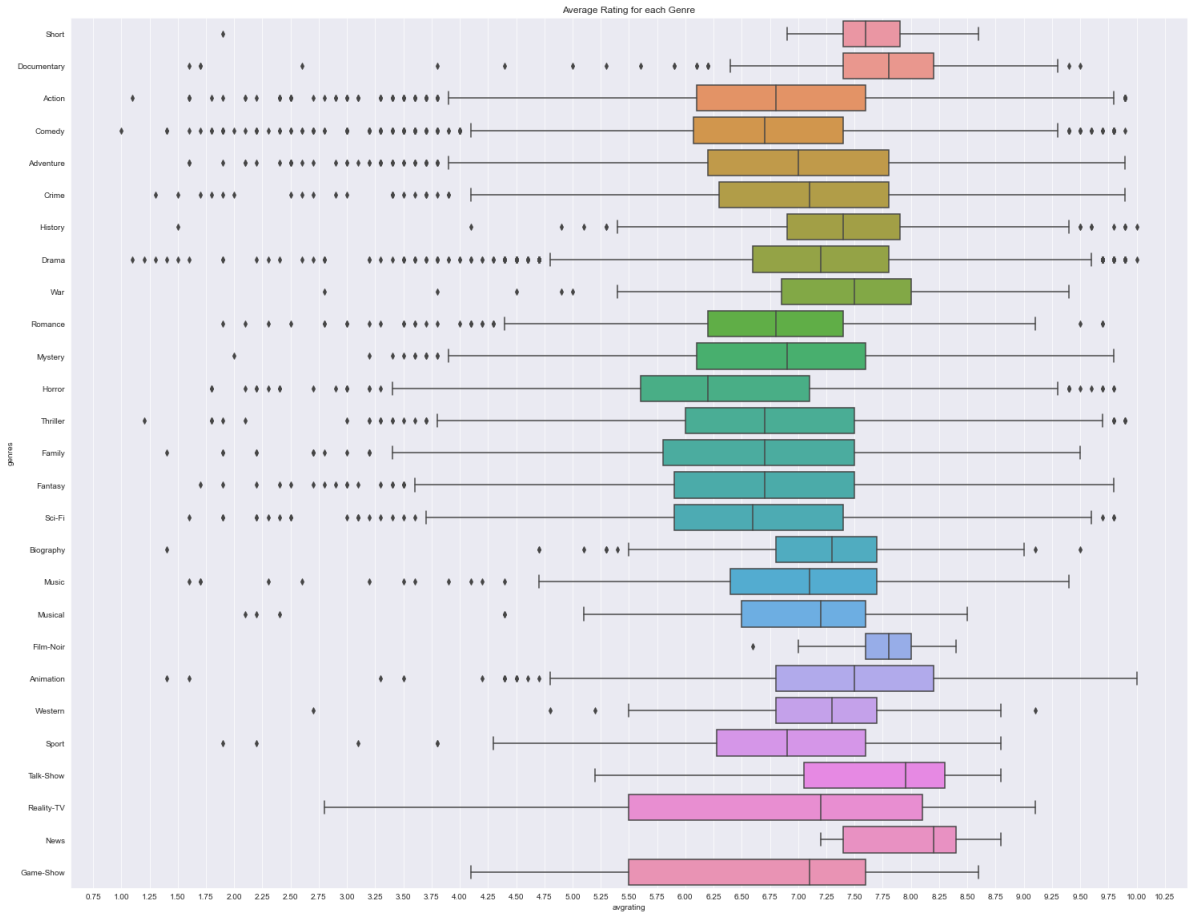
In [14]:
```
df.shape
```

Out[14]:
```
(32215, 3)
```

In [15]:
```
#df.shape
from matplotlib import rcParams
rcParams['figure.figsize'] = 25,20
```

In [41]:
```
sns.set_style("darkgrid")
plt.xticks([0.25*i for i in range(0,45)])
sns.boxplot( y="genres", x="avgrating",data=df ).set(title='Average Rating for eacl
```

```
sns.axes_style("darkgrid")
plt.show()
```



In [16]:

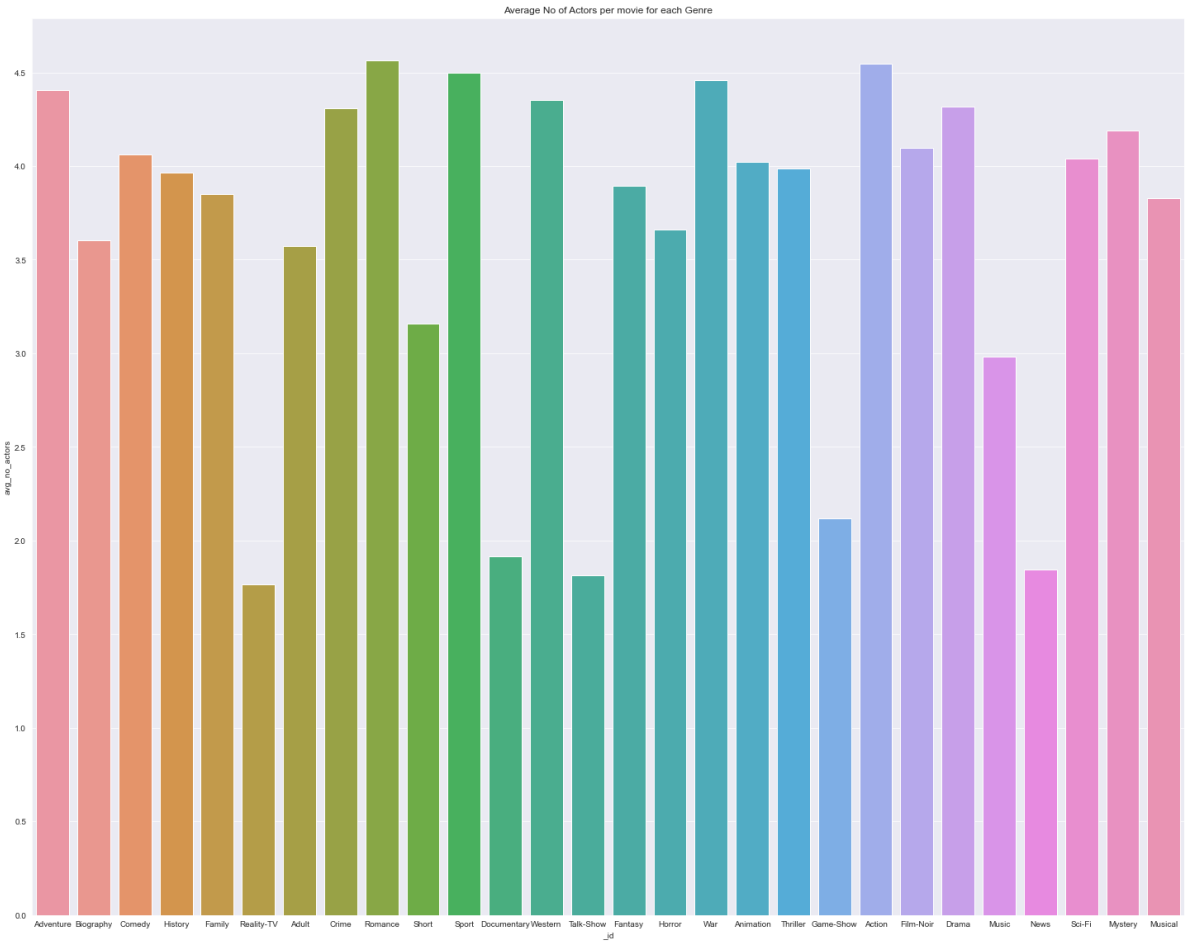
```
myquery1 = [
    {
        '$unwind': '$actors'
    }, {
        '$unwind': '$genres'
    }, {
        '$group': {
            '_id': {
                'genre': '$genres',
                'movie': '$_id'
            },
            'no_of_actors': {
                '$sum': 1
            }
        }
    },
{'$match' : {"no_of_actors" : {"$gte" : 1}}}
    , {
        '$group': {
            '_id': '$_id.genre',
            'avg_no_actors': {
                '$avg': '$no_of_actors'
            }
        }
    }
]
# result.drop()

mydoc = movies.aggregate(myquery1,allowDiskUse=True)
```

In [17]:
```
df=pd.DataFrame(list(mydoc))
```

In [18]:
```
sns.set_style("darkgrid")
plt.yticks([0.5*i for i in range(0,11)])
sns.barplot(x = '_id',
            y = 'avg_no_actors',
            data = df).set(title='Average No of Actors per movie for each Genre')
```

Out[18]:
```
[Text(0.5, 1.0, 'Average No of Actors per movie for each Genre')]
```



In [4]:
```
myquery1 = {
   "$group" : {"_id" : "$startYear", "numtitles" : {"$sum" : 1}}
}

#result.drop()

mydoc = movies.aggregate([myquery1])
```

In [5]:
```
df=pd.DataFrame(list(mydoc))
```

In [ ]:
```

```

In [6]:
```
df.dropna()
```

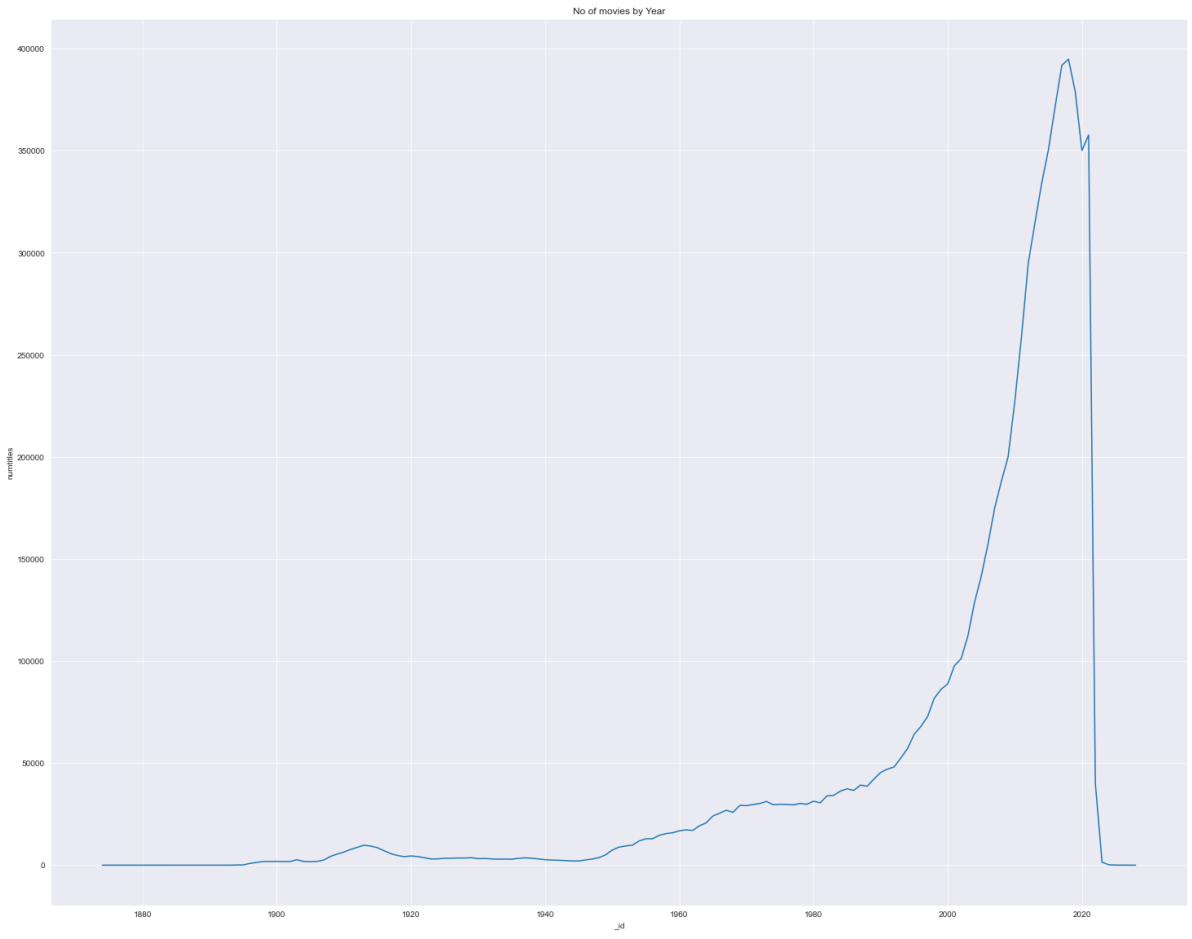
Out[6]:

	_id	numtitles
0	1922.0	3614
1	1957.0	14594
2	1967.0	26899
3	1979.0	29834
4	1885.0	1
...	...	...
145	1888.0	5
146	1968.0	25881
147	2006.0	157258
148	1948.0	3707
149	1913.0	9776

149 rows × 2 columns

In [10]:
```
sns.set_style("darkgrid")
sns.lineplot(x = '_id', y = 'numtitles',data = df).set(title='No of movies by Year
```

Out[10]:
```
[Text(0.5, 1.0, 'No of movies by Year')]
```



In [ ]: