Assignment 1 – Winter Olympics Analysis
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CONTEXT

The Winter Olympics data consists of data spanning 20 Winter Olympics from 1924 - 2006. It has information of all the events organized along with details like year, organizing city, discipline, gender, type of medal, medal-winning country etc.

MOTIVATION

This report aims to analyze the top 10 medal-winning countries at the Winter Olympics to spot some trends and interesting insights.
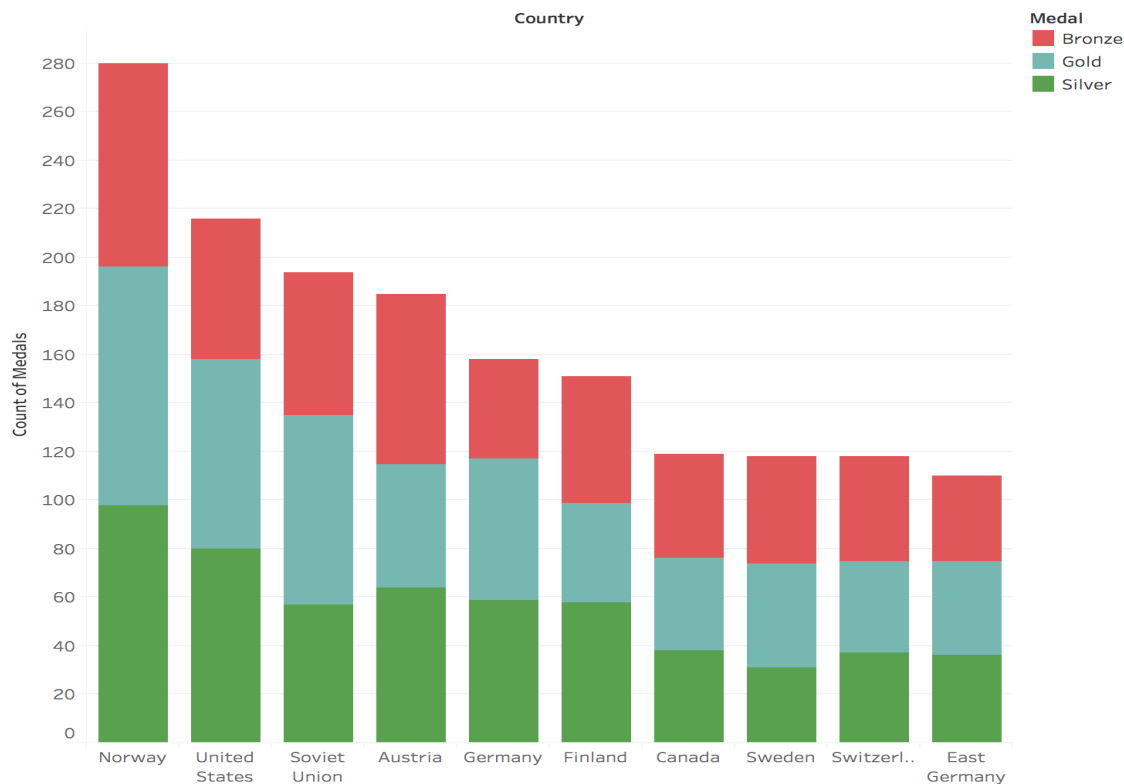
APPROACH

All the analysis has been done using Tableau as the visualization tool. The theme – analysis of top 10 countries – was finalized first. After this, multiple plots comparing various features of these top 10 countries were generated by careful use of the rows and columns and plot types. The most relevant and insightful ones were selected and improved by removing extra data and highlighting and annotating the important aspects.

ANALYSIS/TAKE HOME MESSAGE

Here is a look at the top 10 medal tallies over the Winter Olympics from 1924 - 2006:
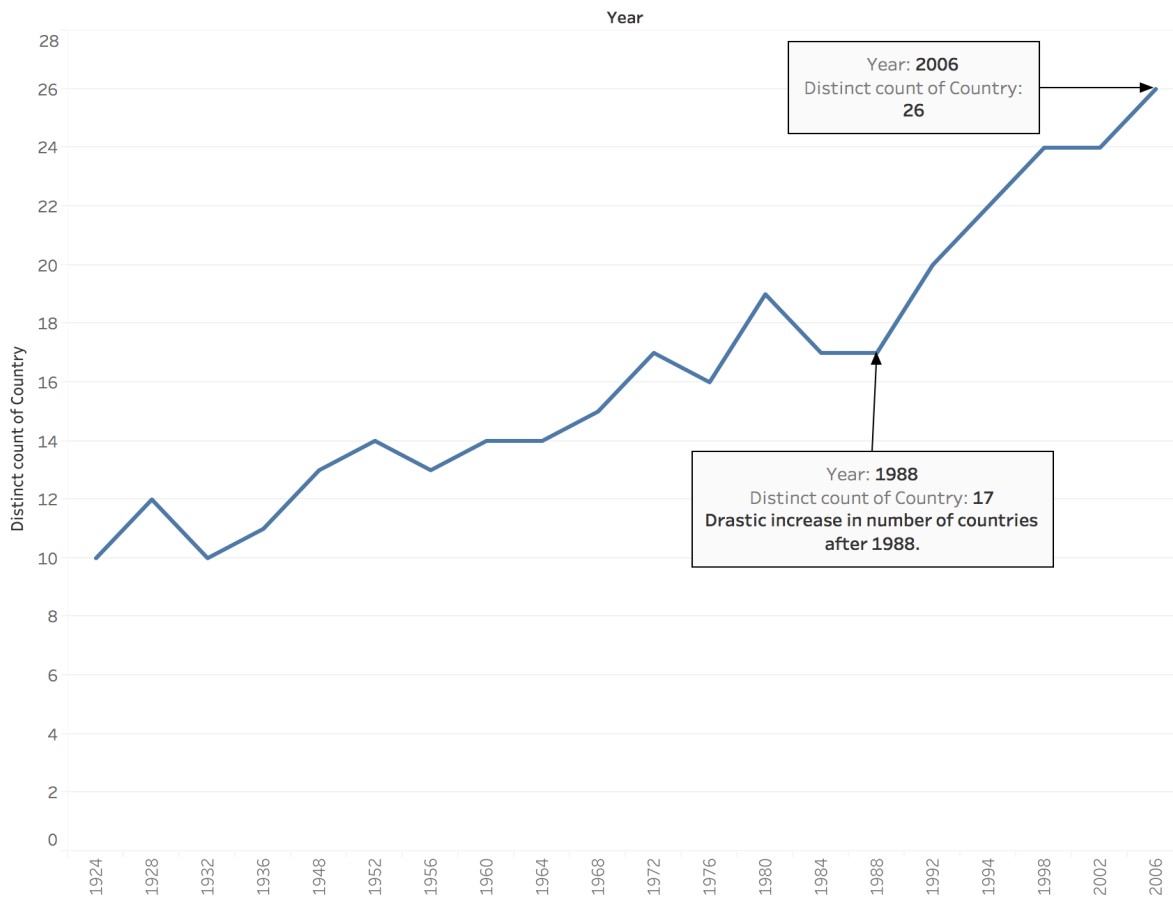
# of medals v/s Country

Count of Medal for the top 10 Countries. Color shows details about Medal.

- According to this graph, Norway has the highest number of medals followed by the United States and the Soviet Union. But it could be misleading to conclude that Norway has the best performance in terms of tally of medals.
- Similarly, a judgement cannot be made about how good Germany and East Germany have been. The next set of plots illustrate why this is the case.
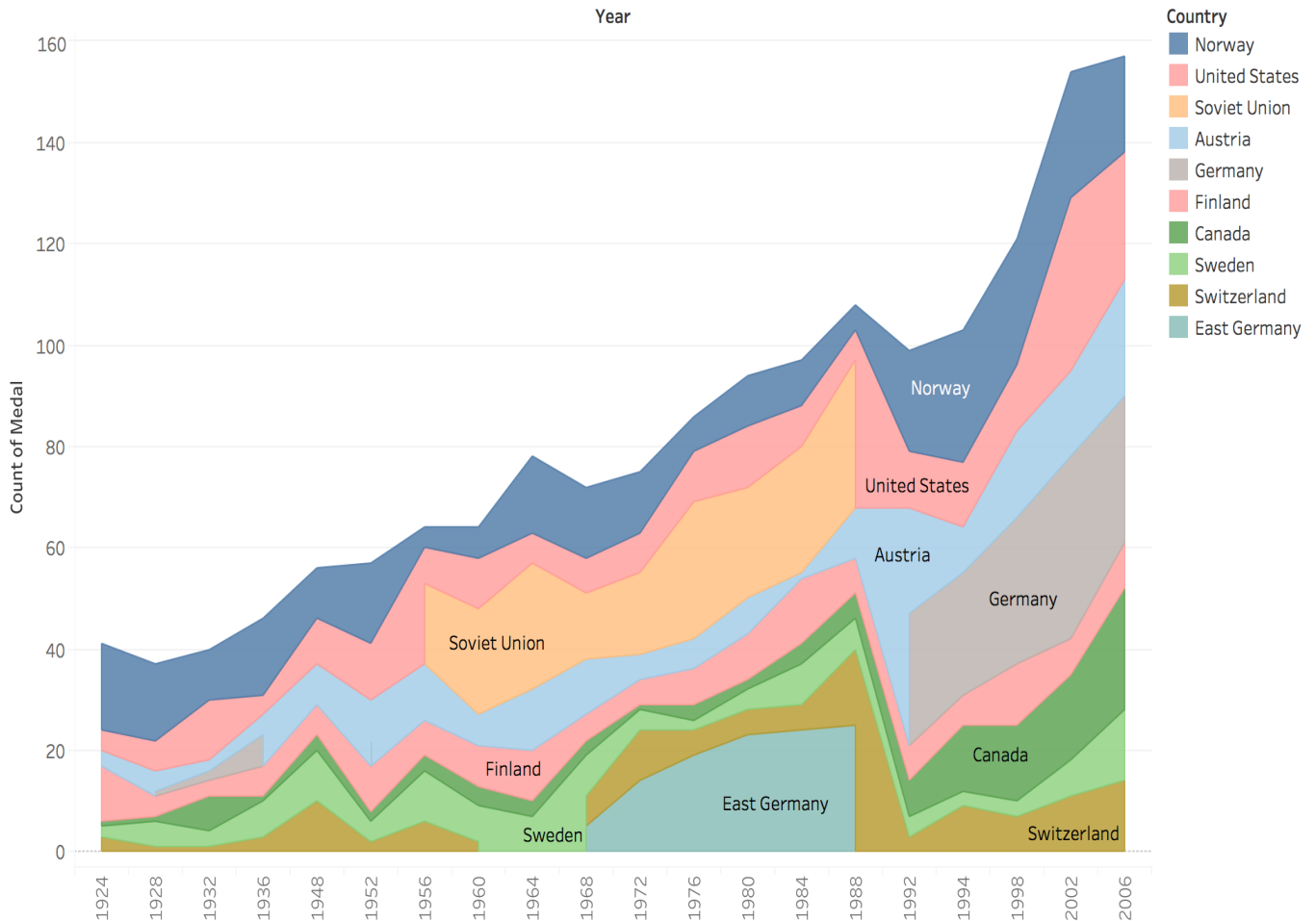
Number of countries over the years

Number of countries over the years

This plot show that **after 1988, many new countries participated in the Winter Olympics. The reason behind this is the dissolution of the Soviet Union.**

In the next plot, there is an illustration of the performance of top 10 countries over the years. The colors represent the countries and the area covered by each country represents the medals it won.
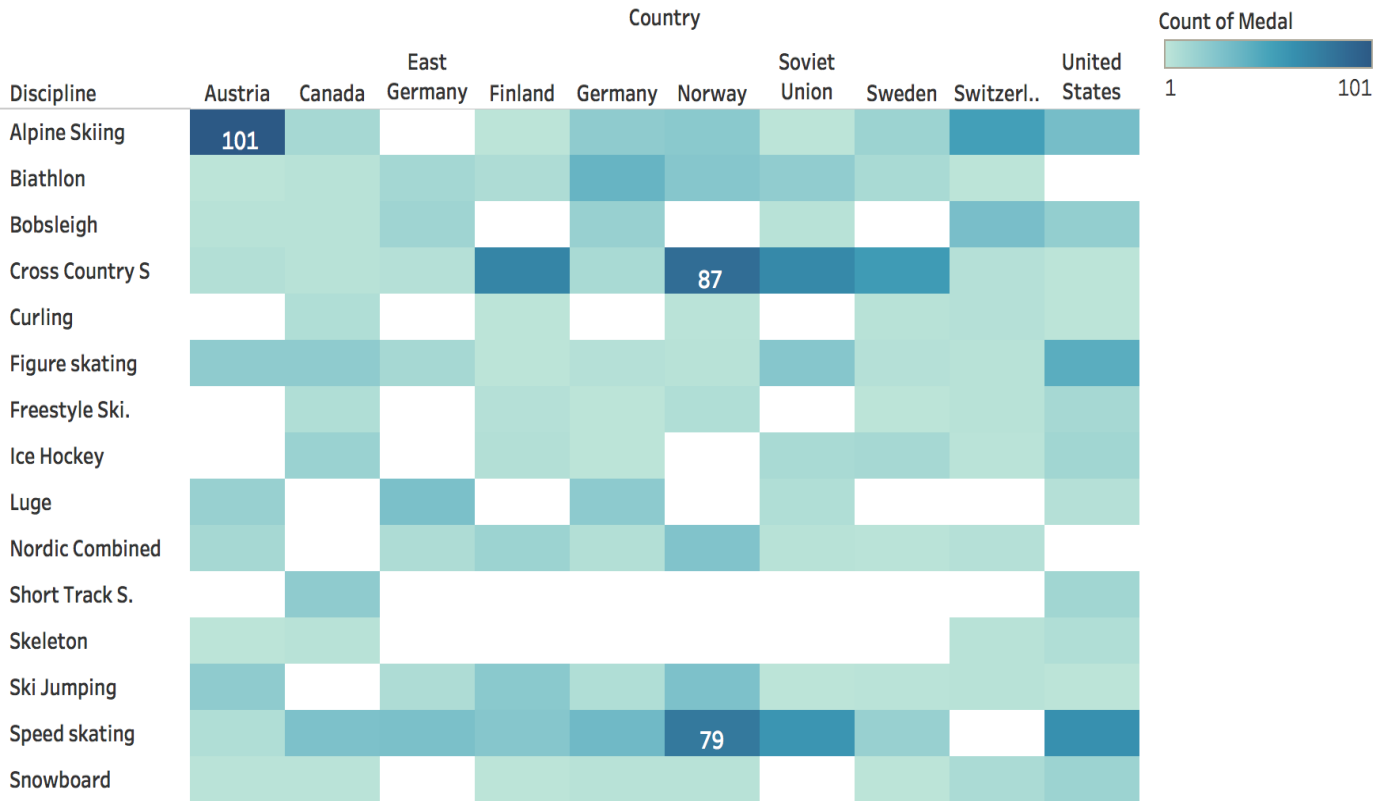
Country-wise # of Medals v/s Year

Count of Medal for each Year. Color shows details about Country. The marks are labeled by Country. The view is filtered on Country, which keeps top 10 medal winning countries.

- The Soviet Union participated only up to 1988 after which it was split into 15 independent countries that participated in the Olympics. What this means is that **the tally of medals accounts for only the number of medals the Soviet Union won until 1988**. Had it continued participating as a united nation, it may have surpassed the United States and Norway in the medal tally.
- Similarly, East Germany made it in the top 10 in spite of participating in just 6 Winter Olympics (1968 - 1988), while Germany ranks 5th in spite of being in only 9 Winter Olympics. Thus, the performance and consistency of a country cannot be determined just based on the medals tally.
- Another point to notice is that although Switzerland is among the top 10 countries, it did not win any medal in the 1964 Winter Olympics.

MEDALS BY DISCIPLINE

The motivation of this section is to analyze the medal tally of the top 10 countries in the various disciplines.

Top 10 Countries v/s Discipline

Count of Medal (color) broken down by Country vs. Discipline. The view is filtered on Country, which keeps top 10 medal winning countries.

This graph suggests that **none of the top 10 countries have won a medal in all the disciplines in any given year.**

- The United States has the best track record in this case, with just 2 disciplines that it hasn't won any medal in.
- East Germany seems to have the worst record, with 7 disciplines out of 15 that it does not have a medal in. Of course, this can be accounted for by the fact that it participated in just 6 Winter Olympics.

The highest number of medals won by a country by Disciple are:
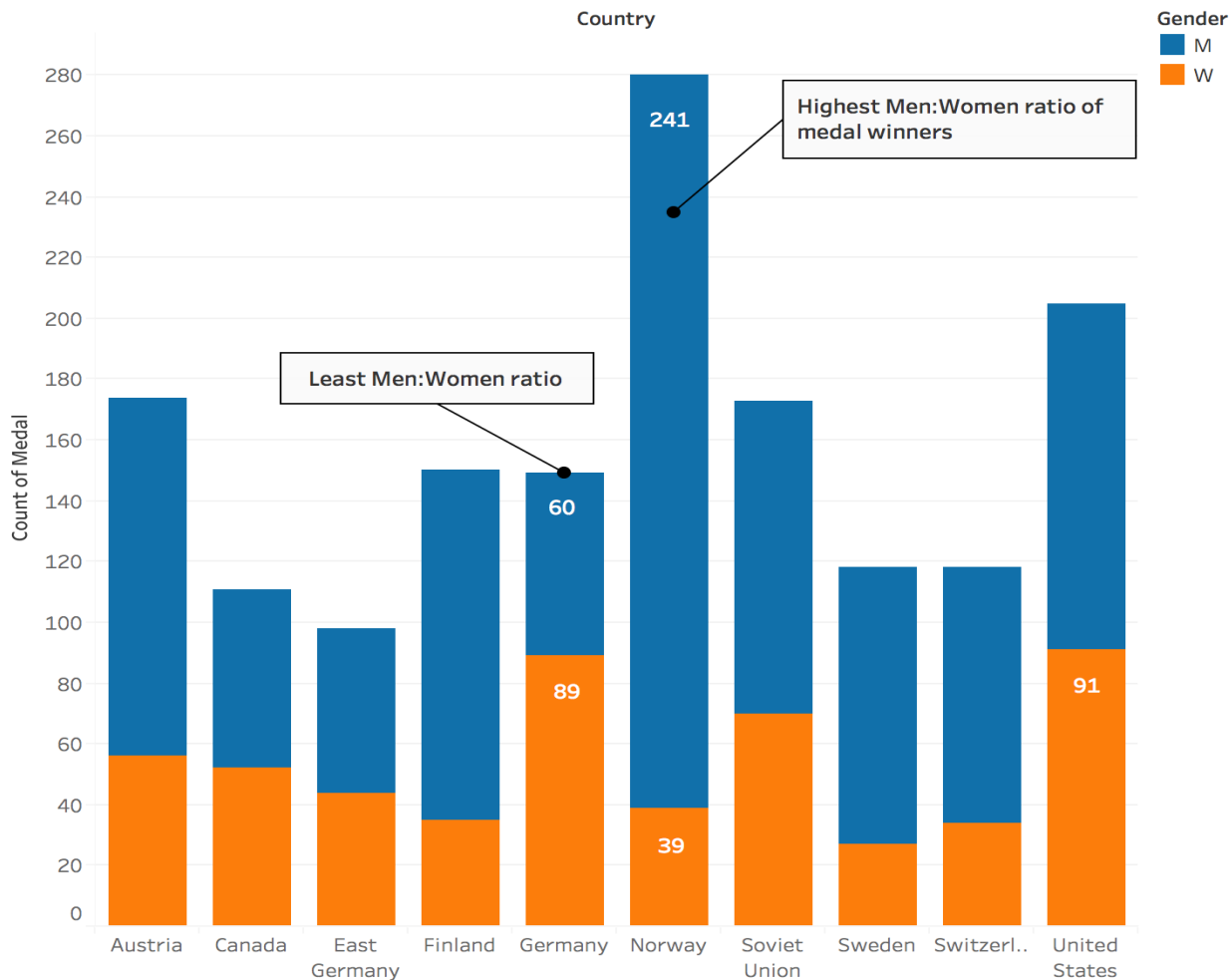
Alpine Skiing – Austria – 101

Cross Country S – Norway – 87

Speed skating – Norway – 79

MEDALS BY GENDER

The final part of this report aims to analyze the distribution of medals among the countries by gender. The team events have been excluded in this analysis:

The Top 10 countries vs # Medals by Gender

Count of Medal for each Country. Color shows details about Gender. The view is filtered on Country and Gender. The Country filter keeps top 10 countries. The Gender filter keeps Men and Women.

As can be seen, the **number of medals won by men is greater than the number of medals won by women for most countries.** One reason for this could be lesser representation of women in the contingent, thus, lesser probability of winning a medal for the women.

- Norway has the highest number of medal winning men (241) while the United States has the highest number of medal winning women (91).
- While Norway has the highest Men to Women ratio (6.1), the United States, Canada and East Germany have almost equal number of medals won by men and women (Men : Women ≈ 1). **Germany is the only country that has more medal-winning women than men, giving it a ratio of just 0.67.**

CONCLUSION

- A lot of significant political changes took place during the years that span this dataset (World War II and the Cold War being the most significant). These changes, reflected in the Winter Olympics records, make drawing raw conclusions from the data misleading. It is important to account for the dissolution, addition, boycott and banning of countries from these tournaments to make accurate judgements.
- This data only consists of details related to medals. It does not contain information on the total number of participating countries or the total number of athletes that took part in every event. . Thus, if any country has not won even a single medal over those 20 Olympics, it does not appear anywhere in the data.
- This factor should be taken into account while drawing conclusions, especially related to gender representation. For example, if there are no female medal winners from a country the tally for women will be 0, but it may also mean that there were many women who participated, but none of them won. So, concluding about the representation of women in the team is misleading.