

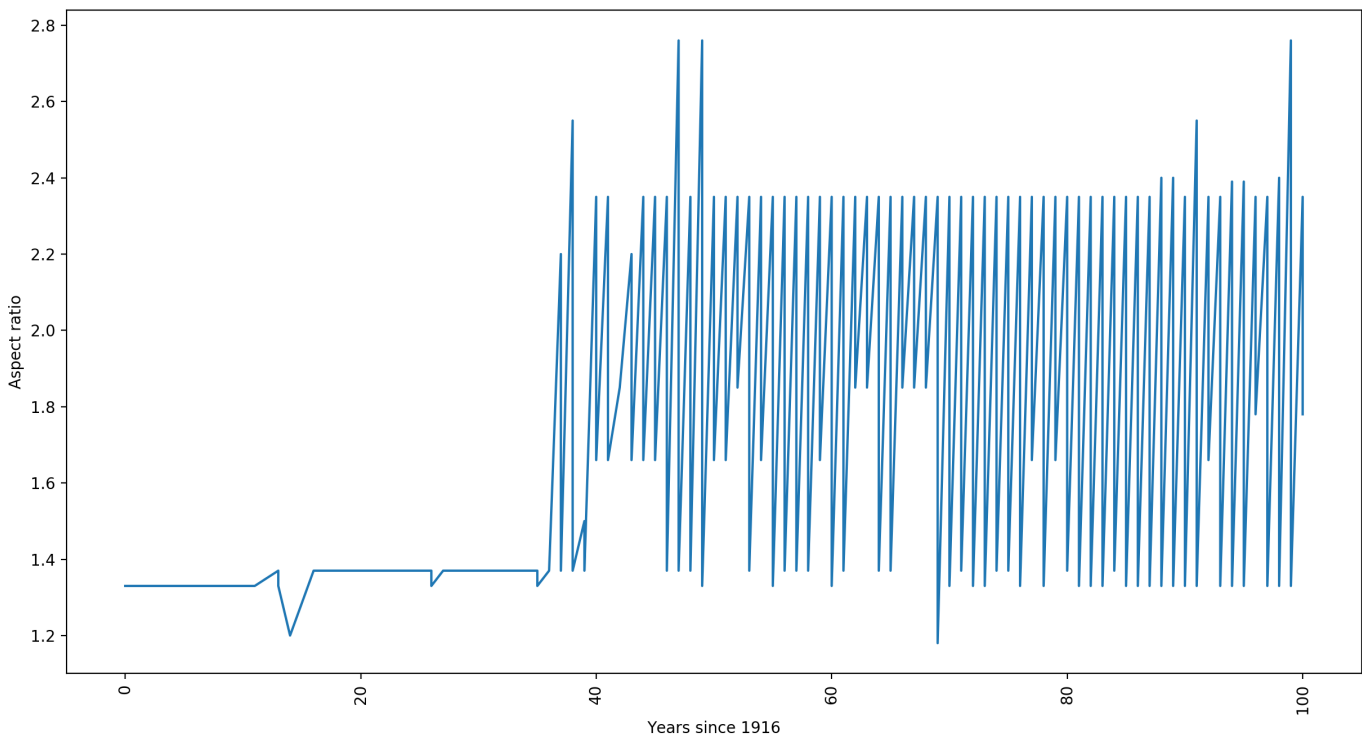
This document contains an analysis of movie aspect ratios. The aspect ratios of the provided movies are divided into an analysis of the changing of aspect ratios between 1916 and 2016 (Figure 1), and the amount of movies made per aspect ratio (figure 2). Figure 1 was ordered by simpleCSVsorter by “title\_year” and Figure 2 was ordered by “aspect\_ratio”

In figure 1 (below), a line graph was constructed where the horizontal axis is the years passed since 1916, ranging from (0,100). The vertical axis refers to the aspect ratio of the given year. The input data has duplicate years with different aspect ratios per year, so the mode year was used for each given year if each year had more than one movie/aspect ratio. As you can see from the graph below, for around the first 40 years of the given data set between 1916 – 1953, the majority of the aspect ratios were 1.37:1. This comfortably reflects the 4:3 aspect ratio used in many older films in black and white or color. This square-shaped aspect ratio fit most televisions of the time, as well.

However, after 1953 there was an insurgence of much wider aspect ratios, most commonly 2.35. Visually, there is a plateau after the 1960s at the 2.35 aspect ratio. A 2.35 aspect ratio is much wider than the 1.37 aspect ratio. Many of the movies today are played in 2.35 aspect ratio.

This shows a changing culture of the arts. What people once felt was a sturdy and even aspect ratio resembling a square is no longer as appreciated. Now, people prefer a wide-screen view, based on advertisements of being able to “see more”, to see peripherally. This was due to the advent of television. Most televisions displayed at a 1.35 aspect ratio. Cinemas felt challenged and decided to use wider aspect ratios for the movies they displayed to keep their industry alive and fresh. Older televisions also could not keep up due to the size restrictions of the cathode ray tube of CRT televisions. Thus, it was market competition that drove the aspect ratios to change over time.

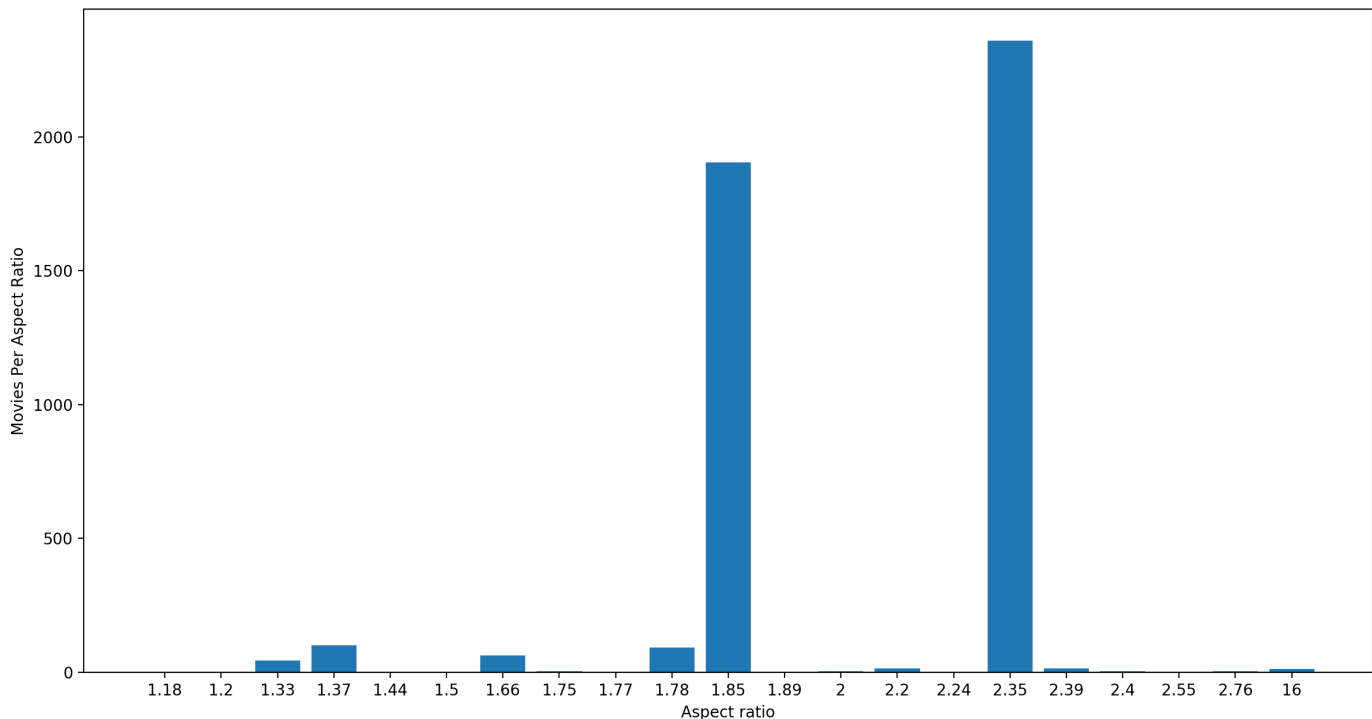
FIGURE 1 – *Aspect ratios between 1916 and 2016*



In figure 2, we can see that there are two dominating aspect ratios of the given data set: 1.85 and 2.35. These are both very wide aspect ratios. The 1.85 aspect ratio is very close to the 16:9 aspect ratio, which is currently one of the most common aspect ratios of films, shows, televisions, monitors, and handheld devices. The 2.35 aspect ratio is currently one of the most common movie/film aspect ratios. The incredibly wide aspect ratio is associated with a much more cinematic and dramatic presentation.

Prior to the 1.85 and 2.35 aspect ratio, the most common aspect ratio was 1.33. However, as we look at the counts of these three ratios, there are 1904 movies in the 1.85 aspect ratio, 2358 movies in the 2.35 aspect ratio, but only 43 movies in the 1.33 aspect ratio. 1.33 aspect ratios are not exclusive to the 1916 – 1950 period, but they are the most common of the time. Viewing figure 1 and 2 in tandem reveals that the amount of movies produced in the aforementioned time period was much smaller than afterwards, given that there were thousands of movies filmed in the 1.85 and 2.35. We can also see that there are outliers movies with an aspect ratio of 16.

FIGURE 2 – *Amount of movies per aspect ratio*



In conclusion, over time we can see that the amount of movies produced per year increased over time, and that the aspect ratio of the movies increased over time as well from a more even square shape to a wider shape. This is due to changing technology and market competition.