## Department of Biostatistics, Vanderbilt University Medical Center

I Want You (She's So Heavy) •

Revolution 9



The Beatles released 210 songs, give or take, from their debut single *Love Me Do* (released October 5, 1962) to their final studio album *Let It Be* (May 8, 1970), in the space of just under eight years. This plot shows length versus release date of each of their songs. All release dates are for the UK market with one exception ("Bad Boy") discussed later.

## **Data and Notation**

**Lengths of the Beatles' Songs** 

The closed circles indicate songs included on their 12 studio albums, the titles and release dates of which appear in the abscissa. The Beatles also released 44 songs as singles, shown here with open circles. Sixteen songs were released twice each, both as a single and as part of an album; all of these pairs are identical in both versions except for "Revolution", "Get Back" and "Let It Be". "Yellow Submarine" was released three times: first as a single and on *Revolver* (both on August 5, 1966), and later on *Yellow Submarine* (January 17, 1969).

The studio albums and singles encompass all but ten of their 210 songs. Two of their 13 extended play albums (EPs), Long Tall Sally and Magical Mystery Tour, consist of songs that were never released elsewhere. A total of nine songs from these two EPs are also shown in the plot. Magical Mystery Tour includes "I am the Walrus", which is not shown in the plot because it was previously released as a single. One song was never a part of any studio album, single, or EP: "Bad Boy" was released on December 10, 1966, on a compilation album, A Collection of Beatles Oldies, with 15 other songs, all of which were previously released. This track was available in the US market more than a year earlier, on June 14, 1965, when it was included in Beatles VI, and it is shown with the release date for the US market. This track was recorded on the same day as "Dizzy Miss Lizzy," which was subsequently included in the studio album Help!.

You Won't See Me

And Your Bird Can Sing

1966→

Aug 6

The **black** points are songs credited to Lennon–McCartney, red indicates Harrison as songwriter, the purple originates with other combinations of the Beatles, and the blue points are cover songs.

To prevent songs with exactly the same length and release date from appearing on top of each other, data points are jittered horizontally when necessary, by a small amount equivalent to four days. For example, both "And Your Bird Can Sing" and "For No One" from *Revolver* are two minutes and one second long. Also in two instances, a single was released on the exact same day as was an album: once with *Beatles For Sale* and another with *Revolver*. These two singles were also moved to the right by four days so the data can be seen.

## **Some Observations**

The vast majority of songs in the early phase of their career (up to *Revolver*) are between two and three minutes in length, perhaps reflecting expectations for radio play at the time. The inclusion of a relatively large number of cover songs during this period may also have been intended to attract a wider audience. All 23 of their cover songs come from this early phase.

The end of this early phase is marked by their final concert, which took place on August 29, 1966, 24 days after the release of *Revolver*. After this concert, the Beatles started to spend much more time in the studio creating less traditional and radio–friendly songs. Songs lasting longer than three minutes became commonplace, though they also released many short songs during this same time period. Furthermore, Harrison's contribution was much more prominent during this later phase.

Long Tall Sally (EP)

1964→

1965→

Dec 4

## Acknowledgement

Love Me Do  $\circ$ 

 $1963 \rightarrow$ 

Oct 5

P.S. I Love You

Data were gathered from *wikipedia.org* and modified based on the actual length of songs on CDs, and R version 4.1.1 was used to create the plot. Rafe Donahue made a number of suggestions that greatly improved the plot. Thanks also go to Shaun Haskins and Lynne Berry who edited the discussion of the plot.

The data and R codes are available upon request via email to the author (tatsuki.koyama@vumc.org).

