

## **Final Project**

All major religions in Middle East—Judaism, Christianity, and Islam—and their scriptures, have been develop from rather small region and timeframe. So, it is not surprising that their scriptures have a significant number of similarities. For example, many of the prophets mentioned in the Bible are also found in the Quran.

For many cases we do point out differences of these books and religions, but it is also important to point out the similarities and find common ground. Similarities between people and religions can foster greater understanding and respect for each other's religious views. In this project, I want to examine the mentions of Jesus (Isa) and Mary (Maryam) in the Quran using network analysis methods. Even though the method may not necessarily provide more information about the religions themselves, it can be beneficial to highlight these similarities in these holy books.

## **Research questions?**

What is the network that Jesus have in the Quran?

Can we have more information by visualised the network?

Do Jesus and Mary connect in the Quran, and do they have same connections?

## **Which data will you use?**

I use Suras that mention Jesus or Mary. I collected data from Quran.com.

Suras about Jesus

Surah Al-Baqarah; 2:87, 2:253, Surah Ali-Imran; 3:45, 3:48, 3:49, 3:50, 3:55, Surah An-Nisa; 4:171, Surah Al-Ma'idah; 5:110, 5:116, Surah Maryam; 19:30-33, Surah Al-Mu'minun; 23:50, Surah Al-Ahzab; 33:7, Surah Ash-Shuraa; 42:13, Surah Az-Zukhruf; 43:61, 43:63, Surah Al-Hadid; 57:27, Surah As-Saff; 61:6, Surah Al-Baqarah; 2:87, 2:253, Surah Ali-Imran; 3:45, Surah An-Nisa; 4:157, 4:171, Surah Al-Ma'idah; 5:17, 5:46, 5:72, 5:75, 5:78, 5:110, 5:112, 5:114, 5:116, Surah At-Tawbah; 9:31, Surah Maryam; 19:34, Surah Al-Mu'minun; 23:50, Surah Al-Ahzab; 33:7, Surah Az-Zukhruf; 43:57, Surah Al-Hadid; 57:27, Surah As-Saff; 61:6, 61:14, Surah Ali-Imran; 3:45, Surah Maryam; 19:17-21, Surah Ali-Imran; 3:37, Surah Ali-Imran; 3:52, Surah Al-Ma'idah; 5:112, 5:114, Surah As-Saff; 61:14, Surah Maryam; 19:27, Surah Al-Ma'idah; 5:110, Surah Al-Baqarah; 2:136, Surah An-Nisa; 4:163, Surah Al-Ahzab; 33:7, Surah Ash-Shuraa; 42:13, Surah Al-Baqarah; 2:136, Surah An-Nisa; 4:163, Surah Al-Baqarah; 2:136, Surah An-Nisa; 4:163, Surah Al-Baqarah; 2:136, Surah An-Nisa; 4:163, Surah Al-Ahzab; 33:7, Surah Ash-Shuraa; 42:13, Surah An-Nisa; 4:163, Surah An-Nisa; 4:163, Surah An-

Nisa; 4:163, Surah An-Nisa; 4:163, Surah An-Nisa; 4:163, Surah Al-An'am; 6:85, Surah Al-An'am; 6:85

Suras about Mary

Surah Al-Baqarah (2:87, 253), Surah Al-Imran (3:36-37, 42-45), Surah An-Nisa (4:156-157, 171), Surah Al-Ma'idah (5:17, 46, 72, 75, 78, 110, 112, 114, 116), Surah At-Tawbah (9:31), Surah Maryam (19:16, 27, 34), Surah Al-Mu'minun (23:50), Surah Al-Ahzab (33:7), Surah Az-Zukhruf (43:57), Surah At-Tahrim (66:12), Surah Al-Hadid (57:27), Surah As-Saff (61:6, 14)

## Data processing

In this project I used OpenRefine to edit my data and Gephi to visualize the network.

I collected the data to a word document from Quran.com, which was quite laborious. In further project I could maybe use open data source for the Quran like GitHub and use Python to collect also the texts. First, I needed to use OpenRefine to make data to a form that I needed to use in Gephi. So I convert word document to text file and then took it to Excel so I could separate text to a different columns (data, text to columns, delimited, next, tab, next) and cleaned the data in excel (editing, find&edit, replace) and converted that to CSV.

In OpenRefine I created a new project and sorted names by using Text facet. Then I chose names over the words I wanted to use and connected names that meant same thing in a different context like mother and Mary. I then tried to use GREL code:

```
forEach(  
  filter(  
    facet("Names").choices,  
    v, v.value == value  
  ),  
  v, v.count  
) [0]
```

to count the names to columns so it would be easy to take to excel. It did not work, and I did not figured out why or find another code so I needed to just write those in by hand to excel.

**Jesus(Isa)**

God (Allah): 18  
Mary (Maryam): 14  
Gabriel: 2  
Zakaria: 1  
Disciples (people): 3  
Abraham: 4  
Isma'il: 2  
Isaac: 2  
Jacob: 2  
Noah: 3  
Job: 1  
Jonah :1  
Aaron: 1  
Solomon: 1

**Mary (Maryam)**

Jumala (Allah): 16  
Gabriel: 2  
Jeesus (Isa): 14  
Zakaria: 1  
Isaraeli people: 2

To prepare the data to Gephi I still needed to do following steps. Creating a node file and an edge file. In excel I created a new sheet and named the columns "Id" and "Label". Then I entered each person in their own row. 1,Jesus 2,Mary etc. Then I created an edge file by making another sheet and name the columns "Source", "Target", "Type", and "Weight". "Source" and "Target" refer to the ID numbers of the nodes that interact with each other. "Type" can be "Directed" or "Undirected" depending on whether the interaction is one-way or two-way. "Weight" was the strength of interaction. I created two pairs of sheets because I first wanted to get the connections of Jesus and then connections of Jesus and Mary to give me more visual outcome.

For the final result, I got two figures where nodes referred people and the stronger the edge is, there are more connections between the nodes. Figure 1. shows all connection that Jesus has in Quran and Figure 2. shows all contacts of Jesus and Mary. Gephi offer some readymade codes for visualization and I used Yifan Hu code.

Figure 1. All contacts of Jesus in Quran

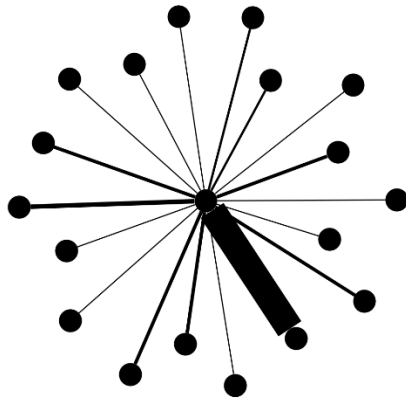
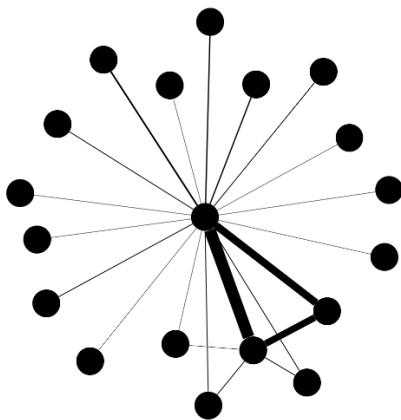


Figure 2. All contacts of Jesus and Mary in Quran



### Conclusions:

In these two figures we can visually see how active Jesus and Mary are in the Quranic text. From figure 2. we can see that all the connections Mary has are the same than of Jesus. We can also see that the Jesus network referred in the Quran has been wider than the one of Mary. Mary only contacted Zakaria and Israeli people if we are not counting God, Jesus and Angel Gabriel which I included in this data since the nature of Quranic connections. This might tell us more about the social context of a women at that time than how active role or importance Mary really have had in her society. Also, we can see that the connection between Mary and Jesus is strong in the Quran. Network analysis

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can here provide a visual representation of the relationships and interactions between Jesus and Mary mentioned in the Quran. This can help in understanding the complexity and significance of these interactions.

By using this method, we need to understand the social context of the time when the Quran was written. By using network analyzes we can't get straight correlation on relations and importance of the centric nodes. Only thing we can say for sure is that Jesus and Mary both had very important role in the Quran since they have been included in the scriptures and they both have connections with other important figures. Network analyses are also used in highlighting the importance of certain individuals and their roles in the network. In scriptures like the Quran this is not valid and can lead to making too quick analysis of the texts. Mohammad is only mentioned in Quran 4 times and Jesus 25. So, the active connections in Quran does not tell us all about the importance of the prophets that are saw today.

To get further on this project it would be interesting to make the full network analyzes of all the connections of Jesus and compare it to connections found in the Bible.

References:

[Jesus in Islam and Christianity: Discussing the Similarities and the Differences - Warren Larson, 2008](#)

[The Bible Among Scriptures in: Scripture in Transition](#)

[The Noble Quran - Quran.com](#)