Intertextual elements in The Big Bang Theory

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Abstract

Situational comedies, or *sitcoms*, have become one of the most famous sources of entertainment in the 21st century. Sitcoms have explored a number of ways to provide laughter and entertainment to their audience. With so many TV shows and movies created in the past, other TV shows and movies decided to achieve comedy by referencing shows from the past in a suitable way. Some shows also refer to past events, people who are famous or bear an importance in any way. One such show is *The Big Bang Theory* which focuses on referencing events, people, shows, and movies that are somewhat related to the group of people perceived as nerds or geeks. The show refers to things that are related to science in general and the science fiction (sci-fi or SF) genre. There are not a lot of people who are familiar with physics, astronomy, and chemistry in such depths, as well as not being a part of SF fandom. Due to that and the fact that this show is centered around these two things, it is important that people understand references in the show to comprehend the humor that the show is trying to achieve. This paper will try to further explain intertextuality and its origins in the theoretical part, as well as intertextual use (verbal, nonverbal, written, mimicked, and others) in this particular TV show.

Key words: intertextuality, science fiction, *The Big Bang Theory*, science

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1 Introduction

Before defining the term 'intertextuality' and the topic of this paper, it is important to define the term 'discourse'. The term is hard to define because it has a lot of definitions and several meanings. However, Schiffrin, who contributed to narrative analysis and discourse analysis, exemplifies discourse and provides several different approaches contributing to discourse analysis. In her book, called *Approaches to Discourse* (1994) she listed six linguistic approaches: speech theory, pragmatics, conversation analysis, ethnography, interactional sociolinguistics, and variation analysis. Furthermore, in the Dictionary *of Media and Communications* Danesi (2008: 98) defines discourse as a "use of language in communication" and a "particular style of talking and writing". Ultimately, following Schiffrin's and Danesi's approaches, discourse can be understood as a study of written and spoken language in use and by that rationale, media discourse is defined as "interactions that take place through a broadcast platform, whether spoken or written, in which the discourse is oriented to a non-present reader, listener or viewer" (O'Keeffe 2011: 441).

The first time that the term 'intertextuality' is used was in 1967 when Julia Kristeva used "the term intertextuality in an article devoted to Bakhtin while asserting the affiliation between Bakhtin's dialogism and intertextuality" (Hilali, updated in 2021). The term 'intertextuality' has several definitions and one of them is that intertextuality "addresses the ways in which a text is interwoven within cultural signifying practices" (Gjurgjan 2008:67). She also states that there are several types of intertextuality: "subversive, adaptive and transpositional, the first being characteristic of modernism and the second of postmodernism. Transpositional intertextuality is particularly significant for postcolonial studies, since it addresses the problem of cultural dynamics between the centre (metropolis) and periphery, which redefines not only periphery but the centre as well." (Gjurgjan 2008:67). Norman Fairclough, the English linguist, made a distinction between 'manifest intertextuality' and 'constitutive intertextuality'. The first intertextuality puts emphasis on intertextual references such as parody, irony, presupposition, etc. The latter intertextuality emphasizes the interrelationship of discursive features such as form, genre, and structure. A media scholar from Australia, John Fiske, made a distinction between 'vertical' and 'horizontal' intertextuality. 'Horizontal' intertextuality entails references that are the same with regards to their source, i.e. books making references to books, songs to songs. On the other hand, 'vertical' intertextuality entails references in the book derived from song and vice versa. 'Obligatory', 'optional', and 'accidental' intertextualities are also worth mentioning. 'Obligatory' intertextuality is deliberate intertextual reference by the author, with 'optional' being a case of intertextuality in

which the audience can find an intertextual connection to a text, phrase, etc. or see no intertextual connection whatsoever. The ‘accidental’ type is connected to the audience's personal experiences on the basis which they make an intertextual connection and the creator has no intention of making an intertextual reference.

It can be observed that intertextuality, same as discourse, has plenty of meanings because the term has a broad aspect of usage ranging from cultural differences to literary works. With that said, the definition for intertextuality in literature is “a sophisticated literary device making use of a textual reference within some body of text, which reflects again the text used as a reference” (Gjurgjan 2008). This definition of the term ‘intertextuality’, when transferred from body of text, to sentences, phrases, and nonverbal communication said by the characters in the sitcom suits the topic of this paper.

2 Sitcoms (The Big Bang Theory)

Sitcom stands for situational comedy and it is a genre of comedy that revolves around a set of characters who are present throughout the show and with a duration of around 20 minutes. There is no specific time in the past which is considered to mark the beginning of the word ‘sitcom’. The word was not frequently used until the 1950s and before that there are examples of situational comedy on the radio. The first sitcom is considered to be *Pinwright's Progress*, which is a ten episode show that was broadcast on the BBC in the UK in 1946 and 1947. Director and producer William Ashner is considered 'the man who invented sitcoms' in the United States. He directed and starred in many sitcoms and one of the most famous is *I Love Lucy*, aired from the 1950s to the 1970s.

Following the pattern of the first sentence, *The Big Bang Theory* is also considered a sitcom. *The Big Bang Theory* was created by Chuck Lorre and Bill Prady. They were also executive producers, along with Steven Molaro. All three of them were also head writers throughout the show. The show has 279 episodes which were broadcast on CBS from 2007 to 2019. The show was set in Pasadena, California and centered around five main characters: Sheldon Cooper and Leonard Hofstadter, physicists at Caltech, Penny, their neighbour, and their work friends: Howard Wolowitz and Rajesh Kootraphali, aerospace engineer and astrophysicist, respectively. Throughout the show there were several supporting characters such as neuroscientist Amy Farrah Fowler (later Sheldon's girlfriend), microbiologist Bernadette Rostenkowski (later Howard's wife),

and Stuart Bloom (comic book store owner) who became main characters. The series won a total of seven Emmy Awards from 46 nominations. In 2017, a prequel series, Young Sheldon, originated which is based on Sheldon Cooper's childhood.

3 Methodology

For present purposes 96 episodes out of 279 (amounting to 12 seasons) were singled out by careful watching as containing intertextual references and represent the corpus analysed in this paper. There are eight episodes with intertextual references in season one, seventeen episodes in season two, thirteen episodes in season three, five episodes in season four, eleven episodes in season five, eight episodes in season six, nine episodes in season seven, six episodes in season eight, eight episodes in season nine, six episodes in season ten, and three and one episodes in season eleven and twelve. It can be observed that earlier seasons focused on jokes and intertextual references, while later seasons were primarily focused on the plot of the show. The process of listing all of the episodes with intertextual references was conducted by pausing the show when the intertextual reference occurred and recording the minute of the example, several key words, and the name of the episode in which the example occurred. The key words from the example were later found in the transcript of the episode and further investigated.

Table 1 outlines the most prominent means of intertextual delivery in *The Big Bang Theory* found in the present corpus. It is worth noting that some examples can be applied to multiple intertextual terms. E.g. DC Universe's examples can be both applied to 'vertical intertextuality' and 'horizontal intertextuality' as these examples could be applied to both the show and comics.

	References from real life	Star Wars	Star Trek	Books, movies, comics	Lord of the Rings	DC Universe	Marvel Universe	TV Shows	Video games	References related to actors and celebrities	Songs
Spoken	7	10	8	30	3	11	6	8	2	6	2
Appearance	1	1	1	2	1	3	0	1	0	4	0
Song	0	1	0	3	0	0	0	0	0	0	2
Gesture	0	0	1	0	1	0	0	0	0	0	0
Impression	0	0	1	4	1	2	2	1	0	1	0
Vertical	8	12	2	38	6	16	8	0	2	6	4
Horizontal	0	0	9	1	0	15	8	10	0	2	0
Manifest	8	0	0	30	0	0	0	10	0	3	2
Constitutive	0	12	11	9	6	16	8	2	2	3	0

Table 1: Types and key domains of intertextual references in episodes of The Big Bang Theory

The following analysis shall focus on outlining, exemplifying and discussing the nature, type and effects of intertextual references in the episodes examined. Specific focus is placed on the domains which emerged as those most frequently drawn upon in the series.

4 Intertextual examples from real life

Intertextual references in sitcoms and other modern sources of entertainment such as movies and songs are often instances of intertextuality that refer to other entertainment creators and their art. *The Big Bang Theory* is no exception. *The Big Bang Theory*, as a show that geeks and nerds can identify with, has an abundance of intertextual references to other TV shows and movies, such as *Star Wars* and *Star Trek*. However, the characters in *The Big Bang Theory* are not just smart when it comes to things that they are interested in. They happen to be very insightful about other areas, such as medicine, history, music etc. However, they do not know everything about other areas and it leads to some comedic scenes. This segment will provide several examples where the characters have the knowledge about other areas and several examples where they do not. The section features seven intertextual references which are all spoken. One intertextual reference is not delivered by a character from the show, but from Howie Mandel, who appeared as a guest character .

The first example of the characters' insightfulness in general knowledge is Sheldon's expertise in medicine. In S01EP07, Sheldon and the others are playing a video game called *Halo* and Penny wants to join in. Sheldon is reluctant and Leonard persuades him because it is the only way that they can play in teams. Penny joins them and easily beats them in the game she is playing for the first time. Leonard suggests to Penny that they should enter *Halo* tournaments because they could win prizes and Penny declines his offer. Penny leaves and Sheldon is upset that she beat him in the video game. Penny comes back shortly after and says that she has a problem. Sheldon says that it is called the Carpal tunnel syndrome and says that she quite frankly deserved it. With this statement Sheldon shows his expertise in medicine even if it is just a bitter comment and that was not the Penny's problem at all. The expertise is shown because Sheldon is aware that it is her first time playing that video game and they had played it for hours. The Carpal tunnel syndrome often occurs if a person uses a computer mouse or joystick constantly for weeks or even months, as well as playing for several hours, especially if the person has not played before.

As in the previous section, Sheldon once again shows expertise in an area not related to things that they usually talk about. In S01EP09, Sheldon shows expertise in History. Sheldon and Leonard get in a fight and are very upset with each other. Penny tries to talk to Sheldon about it and persuade him to talk to Leonard about their little misunderstanding. Sheldon is clearly upset about it and says that Galileo and Pope had had a little misunderstanding. This piece of information shows that Sheldon knows a lot about the history of the world. The little misunderstanding that he is referring to is the incident when Galileo was inquired by the Roman Catholic church and sentenced to house arrest. Sheldon mentions that Galileo had had a little misunderstanding which refers to Pope Urban VIII who was Galileo's friend and favored him, but after the publication of Galileo's book he banned the book and ordered examination of the book and its content.

In S04EP03, Leonard shows expertise in popular culture, showing that they are not just interested in topics related to fiction. Leonard is sitting with his friends in the cafeteria and they see Sheldon and Amy. Leonard says that John and Yoko are coming. He says that because Sheldon is spending more time with Amy and Sheldon and Amy do not want to spend time with others because they are not interesting to them. Leonard calls them John and Yoko because he refers to John Lennon and Yoko Ono who were in a relationship. John Lennon was a very famous musician and was in the band called The Beatles. It is said that John and other members of the band were not on friendly terms anymore and Yoko came into the picture and ended their friendship by parting John from his friends.

In an intertextual instance in S05EP15, Leonard shows his knowledge about pop-culture and once again shows that the group is not only smart when it comes to geek and nerd things. Leonard

provides another great example with his knowledge in popular culture. Sheldon acts out a scene in which Pasadena is hit by an earthquake and says that they are required to wear a safety vest and a helmet. Leonard replies “Oh, fun. I get to spend another night in front of our apartment dressed like one of the Village People.” which is a reference to the band called Village People. They often dressed as constructors, policemen, cowboys etc. In this specific instance of intertextuality, Leonard refers to a band member Mark Mussler who was dressed as a construction worker in their music videos.

In the same episode of the show there is a dialogue between Raj and Howard. Howard becomes an astronaut and has to come up with a cool nickname because all other astronauts have one. Raj suggests that his nickname should be “Buzz” and Howard replies that he can not use that because that one is taken. Raj replies that Buzz Lightyear is not real and that Howard can use that nickname. Howard tells Raj that he is not talking about Buzz Lightyear. In this instance of intertextuality, Howard is referring to Edwin Eugene Aldrin Jr. who is widely known as Buzz Aldrin. He and Neil Armstrong were the first two people who landed on the Moon. This example shows, even though the characters are very smart, they do not know everything about science and famous people related to a specific scientific area. However, Howard is an astronaut and has more insight in astronaut programmes.

A great example of what happens when one of the characters does not have knowledge about other areas occurs in S06EP04 is when Howard lacks popular culture knowledge while landing back to Earth. In this instance of intertextuality, Howard lands on Earth and people start to scream “Howie! Howie!”. Howard is shocked by his welcome and says that he is very happy to be back on Earth. At that moment, Howie Mandel emerges behind Howard and says that they are here for him and calls Howard Ringo. In this scene Howard is puzzled and does not recognize him. Howie Mandel is a famous Canadian actor and author. The other reference to popular culture is the line in which Howard is called Ringo. Howie calls him that because Howard has a certain haircut. Ringo Starr is a musician who was in The Beatles. He is perceived to be a less popular and important member than the other group members. During his time in The Beatles, he was very famous for his haircut which resembles Howard’s current haircut, a detail the audience is expected to recognize for comedic effect to ensue and be heightened.

Furthermore, in S06EP06 Sheldon, as a physics expert, shows that he follows the works of his fellow colleagues when he talks about Stephen Hawking. In this intertextual instance, he and Stephen Hawking played a couple of rounds of the game called Words With Friends. Sheldon says that Stephen Hawking has not played a word in three days and others suggest to him that maybe he was not challenging enough for Stephen Hawking. However, Sheldon says that he was

humiliating Stephen Hawking and that he thinks about writing a book called *A Brief History of Time I Made Stephen Hawking Cry Like a Little Girl*. This piece of intertextuality refers to a well-known book by Stephen Hawking called A Brief History of Time.

In S03EP12, Sheldon once again shows that he knows a lot about history. Raj tells him that they should do something tonight and mentions that there is an event in Glendale Galleria called Salute to Zoot which requires the goers to put on their best Zoot suit. Sheldon says that he has no intention of saluting any article of clothing, especially one that is linked to race riots in the 1940s. Raj says that he thought that Zoot Suit Riots are some sort of after-Christmas sale. In fact, only the name of the riots is related to fashion. Zoot Suit Riots got their name from baggy suits worn by minority youths in that era. Sadly, the riots were about racial tension rather than fashion. Although many Mexican Americans served in the military, servicemen viewed the people in Zoot suits as people who did not want to participate in battles in World War ll. In 1943 tension grew and a clash between servicemen and Mexican American youths resulted badly because one U.S. sailor got beaten. Sailors decided to retaliate shortly after and attacked everyone wearing a Zoot suit. Even though this instance of intertextuality is brought to the audience through humor and ignorance, it also serves as an education on the topic of racial problems which are persistent in the U.S.

All the examples from this section belong to 'manifest' and 'vertical' types of intertextuality. These examples are found throughout history, medicine, science, etc. They are nicely implemented as they don't put emphasis on the seriousness of the actual events rather delivered as a joke in order to teach the audience about some things outside the SF genre and about the relevance of some events in the past.

5 Intertextuality in Star Wars and Star Trek

Star Wars and *Star Trek* account for 24 intertextual references combined.

Two examples from *Star Wars* are impressions made by Leonard and Sheldon. Leonard impersonated Yoda, while Sheldon impersonated Admiral Ackbar with his famous line. There is one example that is delivered by a song and that song is Darth Vader's theme song called *The Imperial March.*

Three examples from Star Trek are related to the appearance. The first is a big carton statue of Zachary Quinty, referred to as "wrong Spock". The second one is also related to Spock, but this time he comes as a little toy. The last example shows the group dressed as *Star Trek* characters.

There is one symbolic gesture that can be frequently seen in *Star Trek*. Sheldon showed it one time while giving his farewell speech. The rest of the examples related to *Star Wars* and *Star Trek* are spoken.

Intertextuality could be brought to the audience in many different ways. Intertextual references are usually delivered with spoken and written words. However, references can be made with many more forms than just the words: costumes, impressions, gestures, songs etc. *The Big Bang Theory*, a TV show that is centered around geeks and nerds, frequently exhibits examples of intertextual references related to *Star Wars* movies and *Star Trek* series. This section will further explain the meanings of those references and connect them to the show, while also showing which form of intertextuality is prevalent in the show.

The first thing this section will touch upon is intertextuality and its forms in *Star Wars* movies. The first example of intertextuality that is not just spoken words referencing something is when Sheldon in S01EP12 says "I sense a disturbance in the force." and Leonard replies with "A bad feeling I have about this, mmm-hmmm." but impersonating Yoda and using his voice. The original sentence "I sense a disturbance in the force." is said by Obi-Wan and the full sentence is "I felt a great disturbance in the Force, as if millions of voices suddenly cried out in terror and were suddenly silenced.". Even though it is not said by Yoda, Leonard uses his voice to make a reference to *Star Wars* because Yoda has a very specific voice and is a famous, beloved character from *Star Wars*. It is also worth noting that this strange syntax, i.e. the inversion of the parts of the sentence is typical for Yoda's speech, which makes for another crucial detail the audience is intended to recognize and consequently laugh at the way it has been drawn upon in this particular context.

Another example of impersonation or mimicry is brought by Sheldon in S02EP19 when he says "Oh, mimicry. I enjoy mimicry. I've been working on Admiral Ackbar from Return of the Jedi. "It's a trap." You have to imagine me with a giant squid head. It's a trap. It's a trap. It's a trap.". Just like Yoda, Admiral Ackbar is a very famous character from *Star Wars* movies. Admiral said this line during Battle of Endor in *Return of the Jedi* and it became one of the most famous lines from *Star Wars* movies. When Sheldon says that he has to be imagined with a giant squid head he is referring to Admiral Ackbar's physical appearance.

In S02EP23 the group's practice in extreme conditions for their trip to the Arctic Circle is not perceived as a good practice by the group, while Sheldon enjoys it. They have problems with clicking buttons while wearing gloves. In order to raise the group's morale Sheldon says "Gentlemen, use your imagination. Innovate. Did Han Solo let Luke Skywalker freeze to death on the ice planet of Hoth? No. He cut open a tauntaun and used its internal body heat to warm him

up.'' This is a reference to a scene when Han Solo saved Luke Skywalker from freezing by putting him inside an animal's carcass. Tauntaun is a reptomammal that lives on the planet Hoth.

Similarly, during an argument about sports in S03EP06 Leonard asks Penny "How was your football party?" to which she replies "It was pretty good. We won.". Leonard finds it funny and says "Oh, that's excellent. It's a weird figure of speech, isn't it, we won when you weren't actually playing. When we watch Star Wars, we don't say we defeated the Empire.". Leonard here is making a reference to the main antagonist of the *Star Wars* movies – the Empire. The Empire was evil because they wanted to rule over everyone and they also created the Death Star which is a space station with a planet-destroying superlaser.

The first example of intertextual reference delivered through song is in S03EP16 when "Raj enters carrying an iPod with a speaker on his tee shirt. As he enters the shop, he starts the iPod and the Darth Vader theme from Star Wars emerges from the speaker.", to which Leonard asks Raj to turn that music off. Raj says that he is giving himself "dramatic entrance music. People will know I'm awesome and to be feared." This is an intertextual reference to the song called *The Imperial March* which represents the authoritarian Galactic Empire. In this example it is stated that it is Darth Vader's theme because it usually plays when he enters the scene. He is portrayed as a fearsome and dangerous character, which explains Raj's last line.

The following example shows Sheldon's character called Sheldon-bot. In S04EP02, after a scare for his health, Sheldon made a robot with a tablet on which he is live streaming himself from his room. Sheldon-bot and Leonard meet Howard at the university and Howard says "Oh, look, it's Leonard and R2-D-Bag.". R2-D-Bag is a reference to a character called R2-D2. This is also a short form of the insult 'douchebag', which Howard cleverly fuses together, showing his intelligence and linguistic prowess. Howard used that specific character because the character is a robot and its physical appearance looks like Sheldon-bot.

The following example is also related to R2-D2. Sheldon feels that Leonard is betraying him by going to the party. Leonard says that going to the party is not betraying Sheldon and Sheldon replies "Oh, of course you would have to believe that. Evil always thinks it's doing right. Excuse me, Stormtrooper. These are the droids you're looking for.". Leonard is clearly upset with Sheldon's statement and says that he is going to the party and "not turning R2-D2 and C-3PO over to the empire!". This exchange is a reference to the scene where Stormtroopers try to see identification papers from the droids (robots) because they are hunting some of them. Obi-Wan uses Jedi Mind Trick and says to the Stormtrooper "These aren't the Droids you're looking for.". The Stormtrooper replied with "These are not the Droids we are looking for." and let them go.

The next example is ambiguous and thus funny. Sheldon is trying to score a shot in basketball in order to win the office. He is playing against his rival Kripke. While trying to score a basket Sheldon says to himself that he should use force. He throws the ball and it misses by a lot to which he says that he should use more force. This is a great example of intertextuality because it can be perceived in two ways. The first way it can be perceived is a reference to the Force from *Star Wars* movies. The Force provides special skills to people. People can use the Force for telekinesis, inhumane strength etc. Sheldon could be referencing the Force or maybe he is referring to the actual force because his shot did not come even close to the basket.

These examples show how intertextuality can refer to more than one thing with just one item, in this case, a person. James Earl Jones is a very famous actor who appears in these examples. The first example is Sheldon humming *The Imperial March* when going to meet James Earl Jones. This makes sense because James Earl Jones gave voice to Darth Vader whose theme song is considered *The Imperial March*. Upon meeting him, they talk about *Star Wars* with a lot of references which are self-explanatory. The other example occurs during karaoke performance. Sheldon sings a song from *The Lion King* called *The Lion Sleeps Tonight*. During his performance he tells James Earl Jones "Bring it home, Mufasa." which is explained with the fact that James Earl Jones gave voice to the character called Mufasa.

Another example related to Obi-Wan occurs when Sheldon tries to leave Pasadena and start a new life away from others. Leonard is reluctant and Penny says that they can not keep him forever and follows with "He'll be okay. You taught him well, Padawan.". Sheldon is angry with Penny's statement and says that "Padawan's the student, not the teacher.". In this example, Penny confused the two; Obi-wan is a Jedi teacher.

The following example brings together several things from *Star Wars* movies into one example. During their travel Leonard and Sheldon realise that they are close to Skywalker Ranch. Leonard says that they cannot get in the ranch because it is in the middle of nowhere and due to that he concludes that George Lucas does not want people dropping in. Sheldon says that it is not a good explanation because "Yoda's swamp was in the middle of nowhere. Tatooine was in the middle of nowhere. Hoth was in the middle of nowhere.". There are three references related to the *Star Wars* series, the first being Yoda's swamp. This line refers to the planet on which Yoda went to live alone and Obi-Wan found him and landed near his house. The second line refers to Luke Skywalker's home. Tatooine was a planet that got no attention from the galaxy until two droids with top-secret information escaped and landed on Tatooine. The last example talks about the remote and cold planet Hoth. The Alliance scouted the planet and decided to build a base there. The Empire later found out that the Alliance had a base on the planet and attacked it.

This intertextual reference starts right away in the title sequence. The title sequence of the episode is the same as *Star Wars*' title sequence, but with a different text. This reference can give an insight to the audience that this episode might be related to the *Star Wars* franchise. The episode is centered around a new *Star Wars* movie. The group wants to buy tickets for the movie while facing some difficulties. Another example of intertextuality is a recurring character appearing in Jedi clothes.

Star Trek is thematically very similar to the *Star Wars* movies. However, there are several lines and characters that made the franchise very unique and famous. This section of the paragraph will further explain these, as well as other, intertextual references.

The first example from the *Star Trek* series involves Leonard, Sheldon, and Leonard's date, who is a medical doctor. Leonard explains to Sheldon that he is not welcome and asks him "Do you understand that this was supposed to be a date?". Sheldon replies that he understands and asks Leonard "Do you? Because frankly, you've been in a foul mood since I sat down.". Leonard is puzzled and asks Sheldon why he sits down with them. Sheldon says that he wants "To help. Look, if you fail at this relationship, and history suggests you will, then we risk losing the medical officer that our landing party has always needed.". Leonard does not understand what Sheldon is talking about and asks him what he means. Sheldon replies that "You're Kirk, I'm Spock, Wolowitz is Scotty, Koothrappali is the guy who always gets killed, and now we've got McCoy.". Sheldon here refers to the main characters from the *Star Trek* series. Sheldon says that Leonard is Kirk and he is Spock because Sheldon thinks that he is always in charge. Wolowitz is Scotty because, just as Wolowitz, Montgomery Scott is an engineer. McCoy happened to be the party's doctor and Sheldon says that they got McCoy because Leonard's date is a doctor and Sheldon thinks that she is a part of the group now.

Another example of intertextuality regarding the *Star Trek* series delivered through gesture was made by Sheldon. In S03EP13 Sheldon moved away and left a video message for his friends that says: "Greetings. As you know, I'm not comfortable with prolonged good-byes and maudlin displays of emotion, so I prepared this short video. The four of you are three of my closest friends and one treasured acquaintance. Though I cannot state categorically that my life will be diminished by not having you in it, I am comfortable if you choose to believe that. Since you intend to remain in this lawless metropolitan area, statistics suggest that you will succumb to tragic and gruesome ends before we meet again. Live long and prosper.". Leonard finishes his video message with a phrase "Live long and prosper" and a hand gesture in which the palm is faced forward, thumb extended, the rest of the fingers are parted between the ring and the middle finger. This hand gesture is called Vulcan salute and was coined by Leonard Nimoy himself. Leonard Nimoy played

Spock in the *Star Trek* series and he used that gesture and that phrase when parting with someone. There is another example of a hand gesture. Leonard used it when he was leaving for a party. He greeted Sheldon with "I'm going, live long and prosper Sheldon." while showing the Vulcan salute.

The following example is related to the actor from the original *Star Trek* series. In S03EP18 Raj and Sheldon have an argument about a fictional movie and Raj asks meaningless questions. Sheldon replies that he is amazed by Raj's obsession over details while there are things to worry about. "For example, why wasn't William Shatner in the new *Star Trek* movie?". William Shatner is the actor from the original *Star Trek* series and he portrayed Kirk. Shatner "told the Associated Press that he definitely wasn't going to be in the film. He revealed that he had had some meetings with the production team, but confirmed that nothing came of those meetings." Later, Abrams revealed why Shatner would not be in the movie. Abrams said: "We actually had written a scene with him in it that was a flashback kind of thing, but the truth is, it didn't quite feel right. The bigger thing was that he was very vocal that he didn't want to do a cameo. We tried desperately to put him in the movie, but he was making it very clear that he wanted the movie to focus on him significantly, which, frankly, he deserves. The truth is, the story that we were telling required a certain adherence to the Trek canon and consistency of storytelling. It's funny — a lot of the people who were proclaiming that he must be in this movie were the same people saying it must adhere to canon. Well, his character died on screen. Maybe a smarter group of filmmakers could have figured out how to resolve that."

The first example of intertextuality that can be perceived as an image occurred in S05EP13 when Sheldon ordered a package. Sheldon opens a package and finds a carton statue of Mr. Spock. However, the statute does not portray Leonard Nimoy, it portrays a different actor. It is a statue of Zachary Quinto. Sheldon is clearly upset that he got wrong Spock and says: "Oh, no! They sent the wrong Spock! Live long and suck it, Zachary Quinto." The actor in reference played Spock in movies *Star Trek* (2009), *Star Trek Into Darkness* (2013), and *Star Trek Beyond* (2016). "Live long and suck it'' is an alternation of a phrase "Live long and prosper'' said by Spock himself.

An example with a toy of Spock happens when Sheldon has a conversation with the aforementioned toy. In S05EP20, Sheldon thinks that he should not play with the toy because it is a very rare and expensive toy; playing with it will decrease its value. Toy Spock persuades him into playing with the toy and asks him "What is the purpose of a toy?". Sheldon replies that its purpose is to be played with. Spock asks: "Therefore? To not play with it would be?" Sheldon replies: "Illogical. Oh, damn it Spock, you're right. I'll do it.". However, this conversation occurs in Sheldon's dream and Spock informs him that he should wake up first. Sheldon answers: "Oh,

of course. Set phasers to dumb, right?" and goes to play with the toy. This example is a reference to Spock's nature. When Spock talks about things, he mostly talks about them as logical or illogical. Sheldon's "Set phasers to dumb, right?" is a reference to weapons used in *Star Trek* series when being in combat. One of the most famous phrases is "Set phasers to stun" which means that the crew will engage in a battle, but do not want to harm anyone. 'Set phasers to dumb' thus becomes a variation of the attribute for stupidity: "How stupid I am!" Also, the rhyming of 'dumb' and 'stun' is the motivating factor for this transformation.

An example of mimicry occurs in S06EP12 when Leonard takes a *Star Trek* quiz. Leonard and Penny are talking about their day and Leonard informs him that his day is great and he is happy because he "found this quiz online called Which Star Trek Character Are You?". Leonard also tells Penny that it took him only four times to get Kirk on which Penny says "That's great." Leonard replies: "Oh. It. Was." in Captain Kirk's voice.

In S06EP13, the first example of intertextuality from the *Star Trek* series that is related to costumes happens when the group is traveling to Comic-Con. The group stopped in the middle of the desert to take some pictures in their costumes. They are talking about which pose they will use first. They agree to begin with a classic *Star Trek* fight scene. During that pose Howard asks Sheldon, who did not strike any particular pose, "How is that a fight pose?" and Sheldon replies that "Mr. Data's weapon is his mind. I'm wielding it". They finish the pose and Raj yells "Phasers on the Borg! Charlie's Angels." so the group will know which pose to take. In first Raj's pose they aim their phasers towards Howard and then follow with the pose that main characters from the TV show and movies called *Charlie's Angels* use.

In the same episode, the group's car gets stolen and they seek help. They come to a restaurant and ask if they can use the phone and the waitress asks "Why don't you ask Scotty to beam you up?" and Sheldon replies "Scotty was on the original series, and we're Next Generation. So joke's on you.". This is an interesting point because Sheldon expects non-members of their group to understand the intertextual references. This is a reference to Captain Kirk and his engineer Scotty. Whenever the captain wanted to get back on the ship Scotty used the teleportation device. Captain asked to get back on the ship with the phrase "Beam me up Scotty.".

Later Raj asks the group "Did we at least rent the car from Enterprise? Get it? Enterprise?". This a reference to the name of the show *Star Trek: Enterprise* which aired from 2001 to 2005. Enterprise is also the name of a rental company in the United States.

In S06EP24, the group is having a meal in the cafeteria. They talk about Raj's inability to talk to strangers and Sheldon says that he also had that problem, but he learned a trick and added that everyone he meets is portrayed as a beloved *Star Trek* character. Leonard asks Sheldon how that

is working for him and Sheldon replies that it works like a charm and adds that Leonard is an unnamed crewman in a red shirt. Howard joins in and says that he has a job for Leonard. He explains that Stephen Hawking is sending an expedition to the North Sea. Leonard says that he is interested, but Sheldon wonders if that is a good idea and adds: “Uh, you know Star Trek. Should a guy with no name and a red shirt really go on an expedition?”. Raj says that Sheldon should not discourage Leonard because it is a fantastic opportunity and Sheldon says “No one asked you, Uhura.”.

Sheldon suggested that Leonard, as an unnamed crewman in a red shirt, should not go to the expedition because crewmen in red shirts frequently die shortly after the moment they are introduced. Their deaths are used to express the potential threats that main characters will face.

Uhura is a character from *Star Trek* and is a communications officer. Uhura is female and bears no resemblance to Raj or his nature. Sheldon called him Uhura for comedic purposes because she is perceived to be an irrelevant character in the ST stardom.

There is a difference regarding Star Wars and Star Trek when it comes to 'vertical' intertextuality. Since the Star Wars series is based on movies, all intertextual references related to it are a part of 'vertical' intertextuality. On the other hand, Star Trek examples are mostly based on TV shows and that is why most of them are a part of 'horizontal' intertextuality. However, there are some exceptions in Star Trek examples as some of them are related to the movies which originated in the last decade. All of these examples are under 'constitutive' intertextuality. Even though they are delivered as jokes, the main focus of them is the SF genre.

6 Intertextuality in books, movies, and comics

Although The Big Bang Theory is often perceived as a TV show that has an abundance of references to geek and nerd movies and shows such as *Star Wars* and *Star Trek*, the show also has a lot of references to movies, books, and comics that are made for children, popular fiction, etc. This section will explain references that are related to the aforementioned sources of entertainment and will also list the means this intertextuality is delivered through by discussing them in a number of specific examples.

There are two examples of intertextual reference delivered by appearance. One is the character's costume and the other is a prop from a movie. There are four examples of impersonation. Three of the four examples are alternations of a line from a movie and the characters in the show are

impersonating the characters from the movies, while the fourth example is a quote from the movie. There are three examples related to the songs. Only one song is from the movie while the other two songs are made by characters and are about movies, books, etc. The rest of the examples are delivered by speech.

In S01EP06, Howard enters the apartment just before the Halloween party and asks Raj if he is dressed as Thor. Raj is upset that Howard asked him that and says that just because he is Indian, he does not have to be an Indian God. He then says "I mean, look at Wolowitz, he's not English, but he's dressed like Peter Pan." and Howard replies that he is not Peter Pan, he says that he is dressed as Robin Hood. Raj follows: "Really, because I saw Peter Pan, and you're dressed exactly like Cathy Rigby. She was a little bigger than you, but it's basically the same look, man.".

This is a reference to Cathy Rigby's *Peter Pan* musical that was on Broadway in 1991 and that musical earned her a Tony nomination for best lead actress in a musical. Raj made a joke that Howard is Peter Pan because both Peter Pan and Robin Hood are dressed in green clothes with a hat that has one red feather in it.

Leonard, Raj, and Howard go to the cinema to see a new *Planet of the Apes* movie in S01EP11. Leonard lies to Penny over the phone and says that he is sorry for that. Raj, while stealing some of Howard's popcorn, says to Leonard that he did what he had to do. Howard notices that Raj stole some and says: "Take your stinking paws off my popcorn you damn dirty ape". In a related sense, everyone in the cinema is wearing an ape mask and Howard's line can be seen as a reference to Raj's mask. However, it is a reference to actor Charlton Heston who played George Taylor in *Planet of the Apes* from 1968. Taylor is being chased by apes and they finally catch him with a net. While taking him out of the net an ape touches him and Taylor yells: "Take your stinking paws off me you damn dirty ape."

In S01EP12 Sheldon is upset that there is a new prodigy, Dennis Kim, who appears much smarter than him and who is also a child. Professor Gablehouser says that they are throwing a welcoming party for Mr. Kim who decided to join their team at the University. Sheldon furiously says: "Of course he has, the oracle told us little Neo was the one. You can see the Matrix, can't you." and Mr. Kim and professor Gablehouser leave.

Sheldon is jealous because Mr. Kim is getting all the attention and praise, just like Neo in *The Matrix* movie series. Neo is believed to be The One, a human who has the power to manipulate The Matrix and who is believed to end the war between humans and machines.

There is an example that features a theatrical property (prop) as an instrument of intertextual reference. In S01EP14 Leonard buys a time machine in an online auction and thinks it is a miniature replica. However, the time machine came in the same size that was in the movie. The

group comes to Leonard's and Sheldon's apartment to take a look at the time machine and Leonard says that the time machine is the coolest thing he ever owned. Sheldon agrees and says: "The exact time machine that carried actor Rod Taylor from Victorian England into the post-apocalyptic future, which society had splintered into two factions, the subterranean Morlocks, who survived by feasting on the flesh of the gentle surface-dwelling Eloy.". The time machine in the apartment is thus a reference to a movie called *The Time Machine* from 1960 which is based on the book with the same name written by Herbert George Wells.

In a further example from S02EP01 Sheldon prepares to move out from his and Leonard's apartment. The group asks him why he wants to leave and where he is going to stay. Sheldon says that he just does not want to live there anymore and that he is going to stay with his friends. Before he leaves the apartment he shows a bag and says that it is his "pre-packed disaster evacuation bag. Recommended by the department of homeland security. And Sarah Connor". This is a reference to a character from a movie series called *The Terminator*. Sheldon says that the bag is recommended by Sarah Connor because she, one of the main protagonists of movies, often found herself in a situation where she is in danger and has to escape quickly. These dangerous situations are usually attacked by an AI army called Skynet.

S02EP16 features a scene where Raj makes a reference to a movie called Apo*calypse Now* from 1979. The movie is based on a short story called *Heart of Darkness* from 1899. In the scene Raj and the group are on a paintball range playing against fellow university members. Raj says that he loves the smell of paintballs in the morning which is an adaptation of a line said by the actor Robert Duvall. The original line goes: "I love the smell of napalm in the morning.". Robert Duvall plays Lieutenant Colonel Kilgore.

In S02EP18 intertextuality is delivered through a song. The group is in Leonard's and Sheldon's apartment playing a game they invented – Secret Agent Laser Obstacle Chess. Leonard loses and he has to go through a set of laser obstacles. When he started, Raj and Howard started singing dramatic music. The music is a theme song of the movie series *Mission Impossible*. In the movie series, protagonist Ethan Hunt frequently has to overcome obstacles that are similar to those that Leonard has to overcome.

Upon entering the dark and cold laboratory, filled with bugs in S03EP02, Raj says "It's like Silence of the Lambs down here.'' This is a reference to a movie *Silence of the Lambs* due to its eerie setting and Ted Levine's MO. In the movie "One of Buffalo Bill's MO's in The Silence of the Lambs is leaving a peculiar staple behind within the throats of his victims; a death's-head hawk moth.".

While watching a movie called *Gremlins* in the group's apartment during S03EP04, Sheldon says that "this movie baffles me every time we watch it". Leonard asks him what he means when he says that and Sheldon replies that instructions are "very clear, don't feed the gremlins after midnight, don't get the gremlins wet". This is a reference to a movie called *Gremlins* from 1984. In the movie there are rare beings called Mogwai and they are cute and lovely. However, there are three rules that are very crucial when handling Mogwai. These are: "Never expose it to sunlight. Never get it wet. Never, ever feed it after midnight.". These rules are not always followed throughout the movie and Mogwai become gremlins and they lose their sense and become unfriendly so it is an imperative that the rules are followed.

In this intertextual reference from S03EP14, Leonard is mocking Sheldon and says that "he's either isolating the terms of his formula and examining them individually, or looking for the alligator that swallowed his hand after Peter Pan cut it off". Sheldon replies that "Captain Hook's hand was eaten by a crocodile, not an alligator" and adds that if Leonard wants to mock him, he should get his facts straight. This is a reference to a movie Peter Pan and Captain Hook is the main antagonist because he is frustrated that he can't fly.

In S03EP16, Sheldon missed an opportunity to share a gelato with Stan Lee. Penny tries to console him and says that there might be another chance to do it and Sheldon furiously interrupts her. He says that he "will never have another chance to have gelato with Stan Lee because opportunities to have gelato with Stan Lee come once in a lifetime. The moving finger writes, and having writ, moves on!". This is a reference to a Persian astronomer called Omar Khayyam and a book called *The Moving Finger* by Agatha Christie. This saying represents the passing of time and tells us that once a moment has happened it is now in the past and cannot be experienced again.

Throughout the series, Howard often shows his interest in magic tricks. In a particular episode from season four, Howard and Raj want to trick Sheldon with a magic trick. Sheldon does not believe that Howard can actually guess his card and tells him that "This deck is rigged in some fashion." and Howard replies to him to get another deck and he will do the trick. Sheldon then asks him if that is the regulation deck and Howard informs Sheldon that he should believe in magic and calls him muggle. This is a reference to Harry Potter books and movies. In Harry Potter books a lot of people have some magical abilities and can cast spells, while people who do not know any spells and do not have magical powers are called muggles.

In S05EP02, the group has issues with Penny's furniture because she found it on the street. Sheldon wants to tell Penny the dangers of owning unhygienic furniture but she does not want to listen to him. Sheldon asks if Penny and Amy are good friends and Amy replies that they are "Best friends, besties, BFFs, peas in a pod, sisters who would share traveling pants.". This is a reference

to the movie called *The Sisterhood of the Traveling Pants*. The group is going to spend their first summer apart and they buy a pair of pants which mysteriously fit each person despite their different body types and sizes. They all share the pants throughout the summer and the topic of this movie is preserving friendship and being a good friend to each other. That is why Amy says that they are sisters who would share traveling pants.

Raj is very rich and the group finds it out in S05EP04. They are speculating on how rich he is. Leonard says that he knows that they have money, but he also thinks it is not that much. Sheldon corrects him and says "See, as you know, a few years ago, I achieved one of my lesser dreams and became a notary public. Well, from time to time, I notarize banking documents for Raj. The Koothrappalis aren't just rich, they're Richie Rich rich.". Penny tells Sheldon that she does not know how much that is and he replies that it is "About halfway between Bruce Wayne and Scrooge McDuck." These three characters mentioned are all very rich. Richie Rich is the child from the movie named after him and he has everything that money can buy except a friend. Bruce Wayne is also known as Batman and he is so rich that he is often called the Prince of Gotham. He successfully fought criminals using his money to make extremely advanced armor, car and gadgets. Scrooge McDuck is a Disney cartoon who is also a cross-reference to Dickens's character. Scrooge is so rich that he has a building that is filled with money.

Sheldon has been getting his haircut by the same hairdresser since he moved to Pasadena. However, in S05EP18 that hairdresser is sick and his nephew is covering for him and will handle all his customers until his uncle comes back. Sheldon is very upset with that because he is sure that the nephew will do something wrong or that he might try to talk to him. Leonard explains that his nephew is also a trained hairdresser and nothing will go wrong. Sheldon is still upset and says that "this is the way the world ends, not with a bang but with a nephew." This line was written by Thomas Stearns Eliot in his poem *The Hollow Men*. The original line is "This is the way the world ends Not with a bang but a whimper."

In S05EP24, the group is talking about marriage and how the ceremony was. Sheldon asks Leonard how he envisioned marrying Penny. Leonard starts behaving awkwardly and tells Sheldon not to talk about it. Raj chimes in and says that he has a great idea and he can make it special. Howard quickly interrupts him and tells him that "we are not recreating the wedding from The Sound of Music". Raj likes songs and everything related to musicals. This is a reference to a well-known musical from the 20th century called *The Sound of Music*. Howard talks about a wedding that was filmed in Salzburg at Mondsee Abbey. This example is also a part of the recurrent allegations to Raj's questionable sexual orientation.

In S06EP14, the group ordered 3D printed dolls of themselves from the internet. One doll comes looking like Wesley Snipes. Scene starts in Howard's lab and Raj plays with a doll and says: “You! Always bet on black.”. This is a reference to the movie *Passenger 57* starring Wesley Snipes. During the conversation with the plane hijacker Wesley Snipes asks him if he ever played roulette and tells him that he should always bet on black, alluding to Snipes' skin colour, i.e. race.

Our overview of intertextual references reveals the Harry Potter series to be one of the most sources of intertextual references. The latter applies both to the book series and the movie franchise resulting from these. We turn to both at this point.

At one point in the show, Leonard informs the group that he enjoys reading Harry Potter books and that he just started reading the 6th book. In S06EP15 Sheldon tells him that is a good one and informs him that Dumbledore dies in that one, thus spoiling Leonard’s future reading. Leonard is upset with Sheldon and they argue. During the argument Leonard tells Sheldon that he is leaving and he is going to live with Penny. While Leonard is leaving the apartment, Sheldon tells Leonard to wait and Leonard thinks that maybe Sheldon wants to apologize to him. However, Sheldon tells him that Dobby dies in the 7th book, thus again spoiling another book for Leonard. This is a reference to books called *Harry Potter and the Half-Blood Prince* and *Harry Potter and the Deathly Hallows*. In the 6th book Dumbledore is being chased and captured by Severus Snape. Professor Snape kills Dumbledore and the audience later finds out that he did that in order to save Harry Potter. In the seventh book Dobby the elf saves Harry Potter and his friends. He was greatly injured and later died from the wounds.

Another Harry Potter reference is made by Leonard in S07EP04 when Penny invites him to the sports bar. They are leaving the apartment and going to watch the game and Penny suggests Leonard not to talk about sports with the guys. Leonard replies that it is not a good sports bar because “It’s like they never even heard of Quidditch.”. Quidditch is a sport that is frequently played in the Harry Potter series which is actually only a fictional sport, which is not practiced by real sports fans, so he would most likely be mocked by other bar patrons. The participants fly on brooms while trying to kick a flying ball into the enemy’s goal.

In another episode, we find additional references related to the SF/Fantasy world. For example, Bernadette is in the hospital because she had an accident at her job dealing with a dangerous raccoon virus. Howard is standing just outside the quarantine room and says that he made a little song for their first date anniversary. The song goes: “If I didn’t have you, life would be blue, I’d be Dr. Who without the TARDIS. A candle without a wick, a Watson without a Crick, I’d be one of my outfits without a dickie. I’d be cheese without the mac, Jobs without the Wozniak, I’d be solving exponential equations that use bases not found on your calculator making it much harder

to crack. I'd be an atom without a bomb, a dot without the com, and I'd probably still live with my mom. Ever since I met you, you turned my world around. You supported all my dreams and all my hopes. You're like uranium-235 and I'm uranium-238, almost inseparable isotopes. I couldn't have imagined how good my life would get from the moment that I met you Bernadette. If I didn't have you life would be dreary, I'd be string theory without any string. I'd be binary code without one, a cathode ray tube without an electron gun. I'd be Firefly, Buffy and Avengers without Joss Whedon. I'd speak a lot more Klingon, Heghlu'meH QaQ jajvam. Ever since I met you, you turned my world around. You're my best friend and my lover. We're like changing electric and magnetic fields. You can't have one without the other. I couldn't have imagined how good my life would get from the moment that I met you, Bernadette." This moving song made by Howard has an abundance of intertextual references:

-TARDIS is a space machine that Doctor Who used to travel through space and time

-Francis Harry Compton Crick, James D. Watson, and Maurice Wilkins got a Noble prize in the field of medicine in 1962

-Steve Jobs together with Steve Wozniak started the company called Apple Computer in 1976

-Joss Whedon was a director on aforementioned movies and TV shows

S07EP18 features a nice example of combining several intertextual references. In the episode Raj hosts a game night for the group. He tells the rules and Bernadette asks him if she got the rules correct. Raj is amazed that she got it so quickly and calls her Byomkesh Bakshi. After that a funny scene occurs in which Byomkesh Bakshi's integrity is questioned because everyone says that he might be a copy of Sherlock Holmes and Raj substitutes a word detective for Byomkesh Bakshi. This is a reference to an Indian-Bengali fictional detective who was created by Sharadindu Bandyopadhyay. Bakshi appeared in many movies and calls himself the "truth-seeker". Bakshi is often compared to Holmes due to their similar investigative process.

In S08EP03, Howard and the group are practicing throwing a ball for a baseball match. Penny is puzzled and asks to know why he is practicing. Howard tells her that the baseball team LA Angels wanted the astronaut to throw out the first pitch and that they called him because many other astronauts were unavailable. Penny is happy with the news and jokingly says that this makes Howard the athlete of the group. Sheldon reminds her that he is not the only athlete in the group. She is also talking to "the seeker, beater, chaser and water boy of the third place Griffith Park Quidditch team." This example implies the geek nature of understanding what sport is for the group. This is another reference to the sport played in the Harry Potter series. The Seeker is the player who tries to catch a very fast, small, and elusive flying ball. If the Seeker catches the ball, his team automatically wins. The Chaser is the player who kicks a bigger ball into the enemy's

goal for points. The Beater is the player who uses the bat to kick the ball into the enemy team in order to distract them.

Leonard, Raj, Howard, and Sheldon have issues at work and they are behind with their projects. In S08EP05, Howard suggests that they should get together for a couple of days and brainstorm ideas. The group agrees with his idea and Howard mentions that his uncle has a cabin in the woods where they could go. Sheldon tells him that he is not going into the woods and asks him "Did you see the movie Cabin in the Woods?". Leonard then suggests that they should go to the hotel and Sheldon again says that he is not going to the hotel and asks Leonard if he saw *The Shining*. This also happens when Leonard asks Sheldon if he would go to the beach house. Sheldon says that he would not and asks Leonard if he saw *Jaws*. *Cabin in the Woods* is a horror comedy movie about a group of students who take a vacation in a remote cabin. The students are attacked by zombies while technicians observe everything from their headquarters. *The Shining* is a horror movie that takes place in an isolated old hotel called Overlook Hotel. The main character accepts a job in the hotel as off-season caretaker. After a while, the main character's sanity deteriorates and supernatural horror then begins. The third mention of the movie is about *Jaws*. In the movie, a shark attacks people on the beach at a resort town.

In this example from S08EP12, the group is planning an activity in which everyone will participate and Amy finds out that the philharmonic is playing Beethoven. Sheldon chimes in with the fact that it is not about a dog. This is a reference to a series of movies made by John Hughes and Amy Holden Jones. The movie series is called *Beethoven* and follows a family and their pet Saint Bernard. The main story is centered around a family who try to live with their dog's antics.

In S09EP04, Raj and Howard started a band and they already have a song. The refrain of the song goes: "Thor and Dr. Jones. Thor and Dr. Jones. One plays with lightning, the other plays with bones". After they are done with singing Howard says that they are very good. Raj asks Howard if he remembers 'The Ark of the Covenant'. Howard reluctantly replies that he remembers, not knowing why Raj is asking him that. Raj follows that is "how much we're gonna melt people's faces off". The references in the song are related to Norse thunder god Thor and Indiana Jones – the famous archeologist from Indiana Jones movie series. The third reference made by Raj is also related to Indiana Jones. The Ark of the Covenant is in the movie called *Raiders of the Lost Ark* and there is a scene when antagonists discover the Ark and unleash its power resulting in everyone getting melted on site.

The group learned fencing in S09EP05 and they started dueling each other. Howard says "My name is Inigo Montoya. You killed my father. Prepare to die." and Raj says the exact same line. Howard tells him that he thought Raj was Puss in Boots. The pair continue fencing and later on

Howard tells Raj that his name is “Little Orphan Annie. You killed my father. Prepare to die”, Raj quickly replies that his name is “Darth Vader. I am your father. Prepare to die”. The first intertextual reference is based on a novel by William Goldman called ‘The Princess Bride’ which was later adapted into the movie with the same name. The Little Orphan Annie line is based on comic strips, movies, musicals etc. However, it has no correlation to fencing, it is rather used for comic relief. The last reference also has no particular correlation with fencing. It is used because it is based on one of the most famous father-son stories in the SF franchise. This is an intertextual reference to Darth Vader, the main antagonist of *Star Wars* and his son, Luke Skywalker, one of the protagonists of the movie series.

Bernadette and Penny are in Howard’s lab helping him with the guidance system that he is developing. Bernadette thinks that Penny works too slow and makes a sarcastic comment. At that time, Raj comes in and asks if they need any help. In S09EP19 Bernadette says “Not with Lightning McQueen here.” This is a reference to the movie series called *Cars*. In the movie series Lightning McQueen is a car whose dream is to win every race in which he participates.

During S9EP21, Leonard and Sheldon have a fight and Amy agrees with Leonard that Penny is always defending Sheldon. Penny says that it is not true and Leonard says that it is and that Penny has “a weird brother-sister-Elliott-E.T. relationship with him.”. Penny gets very defensive and asks Leonard about his relationship with Sheldon. Leonard replies that they have a different relationship which is more like Leonard being a little girl in *Poltergeist* and Sheldon being “the creepy thing in the TV.”. These are references to two very famous movies. The first reference is from *E.T. the Extra-Terrestrial*. In the movie, Elliott befriends E.T. and does everything he can to help him escape from Earth. The second reference is from *Poltergeist (2015)* in which a girl talks to an unknown person inside a TV and is later kidnapped by ghosts.

Bernadette and Raj are traveling together and Bernadette is driving. In S10EP03, Raj asks her where they are going and Bernadette replies that she does not know. Raj sarcastically replies “Okay. How Thelma and Louise of us.” This is a reference to the movie called *Thelma and Louise* in which two main characters decide to go on a vacation. This could be a reference related to their behavior throughout the movie because they do not know where they will run; or this could be also a reference to the iconic ending of the movie in which they are chased by the police and have nowhere to run so they decide to drive off a cliff into their demise.

Amy likes living with Sheldon and does everything that she can in order to keep living with him. However, in S10EP07, Sheldon is not aware of that and Leonard informs him that she is deceiving him in order to keep living with him. Sheldon feels both flattered and hurt, just like when someone tells him that he looks like a skeleton from *Nightmare Before Christmas*. This is a

reference to an animated movie from 1993. The skeleton in the movie looks a lot like Sheldon as they are both very tall and thin.

In S10EP11, Bernadette is in hospital giving birth to Howard's child. However, Howard, Raj, and Stuart are all standing beside Bernadette. A nurse comes in and says "Now I see three of you. Do we know the father, or is this some Mamma Mia nonsense?". This is a reference to a 2008 movie called *Mamma Mia* in which the main character, during her vacation, falls in love with a man. However, he tells her that he is engaged and he is planning to marry his fiancee. She is heartbroken and dates two guys just before she leaves her vacation. She doesn't know who the father of her daughter is.

In an example from S10EP15, Raj and Stuart are fighting about the care of Howard's and Bernadette's child. Stuart says that they should not "worry about Halley. Uncle Stuart's on the job." and Raj chimes in and says "Under the careful supervision of her godfather". Stuart then makes a sarcastic comment: "My apologies. I didn't mean to offend you, Don Corleone.". This is a reference to the *Godfather* novel and movie series where the main character is a member of the Corleone crime family. The head of the crime family is known as the Godfather and he takes care of the family and its business.

In S11EP04, Penny tells Leonard that she and his mom are texting each other and Leonard is puzzled by that statement. He asks Penny: "Why? Is she sick of talking to the magic mirror on the wall?". This is a reference to *Snow White*. The original story was published by the Grimm brothers in 1812. This particular line is related to the queen in the story, who is evil, thus implying that Leonard's mom is an evil witch as well. She asks her magic mirror "Who is fairest of them all?" and the magic mirror always replies that it is Snow White. The Queen is upset with mirror's words and orders her men to kill Snow White.

The examples above are based on books, movies, comics. Therefore, almost all examples are a part of 'vertical' intertextuality. When it comes to the distinction between 'manifest' and 'constitutive' intertextuality, most of the examples are related to 'manifest' intertextuality as their main focus is to educate the audience about works mentioned in the show as most of them are perceived to be very significant for people in one way or another. 9 out of 39 examples are related to 'constitutive' intertextuality as these examples put emphasis on the genre rather than the joke itself. e.g. Harry Potter references.

7 Intertextuality in Lord of the Rings

Lord of the Rings series has made a big impact on nerds and geeks around the world because the story is so diverse that almost every fan of science fiction will find something to like in the series. The characters are unique and amazingly portrayed in the movies. This section will further explain intertextual references related to the *Lord of the Rings* series. At the end of the section, a short segment will explain the relevance of the *Lord of the Rings* books and movies to the characterization of characters and the comedic effect.

There are only three intertextual references related to the *Lord of the Rings* series. The first example is delivered by the use of a costume. The second one is spoken example and the third is both spoken and impersonation of the character Gollum.

In S01EP06 Leonard and the group are attending Penny's Halloween party. After an argument it is decided that Leonard is going as Frodo. Penny's ex-boyfriend tells him that he is one of the seven dwarves and Leonard ends up kissing Penny while her ex-boyfriend sees it. Leonard tells him: "That's right, you saw what you saw. That's how we roll in The Shire.". Both Frodo and The Shire are references to *Lord of the Rings* books and movie series. Frodo is one of the main characters in the franchise and The Shire is a place exclusively populated by dwarves such as Frodo.

S02EP14 features a situation where Penny has issues with the same ex-boyfriend who saw her kiss with Leonard and she asks Leonard for help. Leonard needs to go to ex-boyfriend's apartment and ask for money that he owes Penny. However, he is much taller and muscular than Leonard so he asks the group for help and Sheldon tells him: "Leonard fairly calls the question, who is in favor of abandoning our game and confronting Penny's steroid-infused ex-boyfriend in a suicidal mission to extract money from him?" and just before anyone answered he adds that Leonard should greet Kurt for them. Leonard asks the group: "When Frodo left the Shire to take the one ring to Mordor, didn't Samwise, Pippin and Merry go with him?" and Sheldon says that they did, but they had a terrible time. This is a reference to all *Lord of the Rings* books and movies because that particular task spans throughout the story. Just like Sheldon said, they had a terrible time because they faced many obstacles and life-threatening situations.

Furthermore, in S03EP17 the group finds an old box filled with SF items and one item being The One Ring from *Lord of the Rings*. Raj says that it has Elvish engraving on it and Sheldon corrects him that "It's not Elvish. It's the language of Mordor written in Elvish script." and continues to read it out loud together with the group. The text is as follows: "One Ring to rule

them all. One Ring to find them. One Ring to bring them all. And in the darkness bind them.". Howard took that ring to check if it is worth anything and he says that the ring is the original. Sheldon says that "If you're suggesting that that is the actual ring of power forged by Sauron in Mount Doom, I look at you with an expression of exhaustion and ever so slight amusement". Howard tells the group that it is the original ring from the movie set and Sheldon grabs and yells with Gollum's voice "It's mine!". The group persuades Sheldon to return the ring and everyone in the group will have it for one day. However, the ring turns them greedy and rude, just like it did with the person in the movie who held onto it for a long time. Sheldon even has a dream about a ring in which he keeps the ring for so long that he turns into Gollum himself. Everybody in the group is reluctant to return the ring to the original owner – Peter Jackson, the person who made the movies. In the end it was found in Leonard's possession and they all struggled for it while yelling "It's mine!" like every person in the books and movies who had it.

All of the previously mentioned examples are related to both books and movies as they are not very specific. However, the last example in which the group has The One Ring is mostly related to the movie. The One Ring is a prop from the movie set and it is said that it belongs to the producer, Peter Jackson. Also, the scene in which the group members yell "It's mine!" is a direct reference to the movie due to the fact that the line in *The Big Bang Theory* is almost identically delivered as it is in the movie.

The *Lord of the Rings* series consists of movies and books and that is why all of the examples are under 'vertical' intertextuality, with the distinction between movie and book references being difficult to establish, and arguably less relevant, at least based on the examples from our corpus. All the examples put emphasis on genre and therefore making all the examples part of 'constitutive' intertextuality. However, with the exaggerated emphasis on the SF genre and LotR fandom, the show created comic situations which could be funnier than the situation in which jokes related to LotR are told.

8 Intertextual references from DC universe

Comic books are a big part of the science fiction community. DC is one of the biggest comics publishers in the world. The DC universe has several fan favorite characters which are frequently

mentioned in the show. This paragraph will explain intertextual references related to the DC universe.

There are 11 examples of intertextual reference related to the DC universe. There are two examples related to costumes, two to impersonation, and seven are spoken. During Halloween and New Year's Eve parties Penny is dressed as Catwoman and Wonder Woman. Howard is impersonating Batman's voice. The other example is related to Batman's enemy Joker and Sheldon smiles like him in one scene.

In S01EP06 Penny is hosting a Halloween party at her home and the group is invited. They come to the party and they make comments on everyone's costumes. Raj says that "Penny is wearing the worst Catwoman costume I have ever seen, and that includes Halle Berry's." Leonard tells him that it is not a Catwoman costume, it is rather a generic cat costume. This is a reference to the character from DC comics who is closely related to Batman's universe. Halle Berry portrayed Catwoman in the 2004 movie about her.

This example features S02EP04 when Raj becomes very popular overnight and fame gets to him. He becomes very rude towards everyone and they agree that his discovery is not much of a big deal. However, the group realizes that they should apologize to Raj and tell him that they are happy for him so they come to his work office. Sheldon says that he is still mad and that he will not apologize to Raj or say anything nice. Leonard and Howard instruct him how to behave and tell him that if he does not want to talk, he should just fake a smile. Sheldon makes a very creepy smile and asks them if it is good enough. Leonard tells him that they are "here to see Koothrappali, not kill Batman.". This is a reference to the character from the Batman universe called the Joker. The Joker is the antagonist in the Batman franchise and he is always trying to find a way to kill Batman. Leonard told him that they are not here to kill Batman because the Joker also has a very creepy smile similar to Sheldon's.

In S02EP07 Sheldon and Penny get into a huge fight that went on for days. Leonard comes to her apartment and says that this fight has to end and gives her an item. Penny asks what the item is and Leonard replies that it is "Sheldon's Kryptonite.". This is a reference to the Superman comics, movies, and TV shows. The group perceives Sheldon as Superman because he thinks that he is always right and they cannot do anything to persuade him to think otherwise. Superman is just the same, however, he has a weakness that is called Kryptonite. It is a crystalline, green material which can be found on Superman's home world. It emits radiation waves that weaken Superman and his abilities.

In S02EP11 the group debates if there is any chance that Superman can be weakened just by doing chores or activities that he does daily. Every time one of the group members provides a

theory it is quickly disproved by other group members. Howard provides a theory which says: “Okay, he’s invited for dinner in the Bottle City of Kandor. He miniaturizes himself, enters the city where he loses his superpowers. Now, before dinner, his host says, “who’s up for a little Kryptonian tetherball?” Superman says “sure,” works up a sweat, comes back to Earth, his uniform now stained with indestructible Kryptonian perspiration.”. This is a reference to the futuristic town located on the planet Krypton. Just before Krypton exploded, supervillain Brainiac captured the town in a small bottle. The theory means that there could possibly be Kryptonite residues in the town and Superman can become weakened if he goes to town and gets residues on himself in some way or another.

In a further example from S02EP21 the group goes to Las Vegas without Sheldon and he is sitting in the hall. Penny comes and talks to him and Sheldon says that he is in a good mood because he will be enjoying a blissful evening in his personal Fortress of Solitude. Penny asks, “Superman’s big ice thing, right?”. Sheldon finds that amusing and tells her not to bother him during the night and starts humming the Superman theme song while looking for keys in his pockets when he suddenly yells “No!”. Penny asks Sheldon if he got locked out of his ice thingy. This is a reference to Superman's occasional headquarters, surrounded by frozen tundra, away from any kind of civilization.

Another example features a character from the DC Universe, the group, Penny, and her new boyfriend are going to attend a New Year's Eve party and Zack informs her that she gets to be Wonder Woman. Sheldon adds that the costume comes with “bulletproof bracelets and lasso of truth.”. He also adds that the invisible plane is sold separately, creating a hyperbolic, exaggerating, and thus humorous, effect of what would be the necessary accompanying equipment for the costume. These are all items that Wonder Woman uses in the DC universe.

Similarly, the character Zack comes to the apartment wearing a Superman costume and yells: “Look up in the sky. It's a bird. It's a plane. I forget the rest”. This is a reference to the Superman comics and movies in which the bystanders see Superman in the air and yell all the things that Zack yelled, but they end with an exclamation that it is Superman.

During the same Halloween episode, Howard is dressed as a Batman and he occasionally imitates Batman in the way that Howard uses a deep voice which resembles Batman's iconic voice.

In S04EP17 Sheldon goes to The Cheesecake Factory where Penny works and sits at the bar. Penny asks Sheldon why he is not with his friends and Sheldon replies that “this evening, I am the Dark Knight, roaming these mean streets alone. A windbreaker for my cape, and a stern expression for my cowl.”. This is a reference to Batman's appearance and the nickname he got is Dark Knight.

In S07EP13 Bernadette comes to the comic store and says that she destroyed one of Howard's comics. Stuart asks her what happened and she replies that Batman got his ass kicked by her curling iron. Stuart makes a joke and says “Well, don't let The Riddler know that.”. This is a reference to Batman's enemy called The Riddler. The Riddler is always finding new ways to defeat Batman, however The Riddler is mostly unsuccessful, so he may see the curling iron as a good weapon against Batman.

Almost all intertextual references related to the DC Universe are both part of 'vertical' and 'horizontal' intertextuality due to the fact that DC makes movies and shows based on their comics and characters. All examples are focused on the SF genre making them part of 'constitutive' intertextuality. Examples put emphasis on genre, even the characters from the show often wear costumes of characters from the DC Universe.

9 Intertextuality in Marvel

Just like DC, Marvel is also a comic book publisher that is very famous. Fans frequently debate which comic book publisher is better. However, the characters in The Big Bang Theory don’t compare these two. They are using both publishers for comedic purposes and teaching the audience about comic book characters. This paragraph will explain intertextual references related to the characters from the Marvel universe.

Marvel, unlike DC, has only 6 references. Four of them are spoken and two impersonation references both related to Hulk. The examples are listed with respect to the specific episodes they appear in:

The following example from S02EP07 shows Sheldon and Penny getting into an argument and Sheldon goes to Penny's apartment to apologize. It turns out Penny called his mother and his mother made him apologize to Penny and allow her back to the apartment. Sheldon apologizes and tells Penny that she played this well and reminds her that with great power comes great responsibility. This is a reference to the *Spiderman* comics and movies. It is said by Uncle Ben, Spiderman's uncle. He said this to Spiderman just before he died. Spiderman later lives by those words and decides to help everyone.

Leonard compares Penny to Bruce Banner in S02EP12. Leonard tells her that she is easygoing and when she gets angry, she turns into “like, you know, grrrr!”. Penny asks if Leonard means that she turns into a bear and Leonard replies that he meant that she turns into a Hulk. This is a reference related to Marvel character Bruce Banner, more known as The Incredible Hulk. Bruce Banner is a very smart and calm person. However, due to the accident he can transform into a big, green, strong, monster who does not care for others and who is also very impulsive.

The members of the group talk about their expenses in S02EP14 and Sheldon says that he sees “no large upcoming expenditures unless they develop an affordable technology to fuse my skeleton with adamantium like Wolverine.”. This is a reference to a character from *X-Men*. Wolverine is thought to be indestructible due to reasons Sheldon mentioned.

In S04EP05, Sheldon thinks that Leonard is jealous because Sheldon has a functioning and satisfying relationship with a female. Sheldon says that “Jealousy is an ugly green-eyed monster, not unlike Hulk, who, by the way, also has a girlfriend.”. Leonard informs Sheldon that he is not jealous and Sheldon replies “Hu-u-urgh! Leonard not jealous.”. This is a reference to the Betty Ross Banner who is Hulk's love interest in the Marvel comics. The last line that Sheldon said is a reference to Hulk's speaking manner. Hulk is famous for the way he articulates words and the fact that he has no grammatical knowledge.

The next example shows a scene from S02EP02 in which Penny comes to the group’s apartment and sees only Sheldon in it. She asks him if he knows where Leonard is and he replies that Leonard is upstairs with Sheldon’s archenemy. Penny is confused and asks “Your archenemy?”. Sheldon thinks that she does not understand what arch enemy answers her: “Yes, the Doctor Doom to my Mr Fantastic. The Doctor Octopus to my Spiderman. The Doctor Sivana to my Captain Marvel.”. These are all characters from the Marvel universe. Doctor Doom is a character from *Fantastic Four* comics and he is considered to be Marvel's best villain. Doctor Octopus is a highly intelligent, mad scientist who invented four appendages which are very similar to octopus’ tentacles. After an accident in his laboratory, he became permanently fused with his appendages and started to live like a criminal. Spiderman often faced him in combat. Doctor Sivana is a Marvel character created by Bill Parker and C.C. Beck. Even though he is a character from the DC universe, he constantly battles Captain Marvel from the Marvel universe.

The group is going on a long trip in S12EP23 and they will need something to stay awake so Penny asks the group if they want any coffee. Leonard says that he wants his coffee “Black and strong, like Luke Cage.”. Luke Cage is a fictional character from the Marvel universe. He is an African American street fighter who is considered so strong that people started to call him Power Man.

Just like the previous section related to the DC Universe, Marvel Universe tends to make movies and TV shows based on their characters and comics. The examples from Marvel Universe are all also part of 'constitutive' intertextuality as just like with DC characters, the characters from the show like to wear costumes related to characters from Marvel Universe. The audience could perceive these two universes the same as they are delivered almost in the exact way by the show. It is interesting because people often argue about differences between these two universes, as do the chracters in the show on several occasions, which makes this, arguably, another integral part of their identity, which is made use of and manipulated with in the show to achieve the comedic effect.

10 Intertextuality in TV Shows

The Big Bang Theory characters are not just nerds and geeks who only talk about Star Wars, Star Trek, elves, and wizards. They also have knowledge about popular TV shows. They talk about reality shows, cartoons, forensic TV shows, etc. This section will further list all examples related to TV shows and explain intertextual references related to them.

All of the references related to TV shows are spoken. However, the first reference can be also perceived as an impression because Howard impersonates a character from *Simpsons.* For convenience, the examples are again classified with reference to the episodes they appear in:

Raj, in S01EP08, wants to ask a girl on a date, but he cannot talk to girls so he asks the group for any advice. Howard tells him what he should say, but he tries to imitate Raj with an Indian accent. Howard finishes his speech and says that Raj can thank him. Raj finds it inappropriate and asks “For what, making me sound like a Simpson character?”. This is a reference to Apu, a character who is the owner of a famous store in Springfield called Kwik-E-Mart. He is an Indian character and Howard’s impersonation of Raj sounds very similar to the voice of Apu.

During a scene in S03EP22, Penny and Leonard talk about the time when Leonard just moved in with Sheldon. Leonard says that before he moved in, they had to “iron out a few details”. The scene goes to the past and shows Sheldon saying that “Roommates agree that Friday nights shall be reserved for watching Joss Whedon’s brilliant new series Firefly.” and Leonard asks him if that really needs to be in the form of an agreement. Sheldon says that they should settle it now because “it’s going to be on for years”. This is a reference to the fact that *Firefly,* despite having a good

story and actors, was canceled just after the first season. There are rumors that episodes were aired out of order and that it was the reason the show got canceled.

The FBI wants to do a background check of Howard's friends in S04EP07 because he works on an important project. FBI agent Page comes into Leonard's office and he says that he expected Mulder and that he is glad that he got Scully. Agent Page does not understand and asks Leonard what he means by that and Leonard replies "Mulder and Scully. X-Files. The truth is out there". This is a reference to the TV show called *X-Files*. This TV show follows 2 FBI agents; one male and one female. In this specific reference Leonard said that he expected Mulder because he expected a male FBI agent to visit him. The line "The truth is out there" is often delivered by agent Mulder and it became one of the most famous lines from the show.

Zack, during a conversation with group members in S04EP11, says that he saw "this great thing on the Discovery Channel. Turns out that if you kill a starfish, it'll just come back to life.". Sheldon sarcastically asks him if the starfish was wearing boxers and that he might have been watching Nickelodeon. This is a reference to the TV show for kids called *SpongeBob SquarePant*s. The show follows the adventures of SpongeBob and his best friend Patrick who happens to be a starfish. Patrick has a unique look – he is only wearing boxers.

Penny joins the group in their apartment and has a big announcement. In this example from S07EP12, she says that she went to the audition and that she got a part in a TV show. The group is amazed and happy for her. They ask her what is the name of the show. Penny says "Um, NC… II… or, you know, NCSTD… I don't know, it's, it's, you know, it's the one with the letters and I'm gonna be on it!" This is a reference to the TV show called *NCIS*. The show follows a group of army detectives on their job of solving murders and crimes related to the army. This show is so popular that it got several spin-offs.

Furthermore, in S08EP16, Amy found an experiment in which you can make two people fall in love in a couple of hours. Leonard disagrees with that and Raj adds that he heard about that experiment and says that people ask each other a series of questions. The group continues the conversation and Penny asks Raj if he wants to try that experiment with his new girlfriend. Raj says that it is unnecessary because he has his family's wealth, he does not need science to make a girl fall in love with him. Leonard says that "you can't create love in a few hours." and Penny jokingly adds that he should be careful because he is "poking at the whole foundation of The Bachelor.". This is a reference to the reality show which revolves around a man who chooses a wife from the group of female contestants. In the show the bachelor goes through a series of dates with female contestants and eliminates one contestant each week until he decides who is going to be his wife.

The group is in the coffee shop and they see Nathan Fillion in this example from S08EP15. They are discussing a plan to approach him. Leonard that they shouldn't approach him. He adds that if he is not nice, it will be hard for Leonard to watch him again. Raj joins in and says that "the guy who plays Jon Snow was a jerk. We still watch Game of Thrones." and Leonard says that happened because Raj rear-ended him. Raj says that he was distracted and that it was "weird seeing a member of the Night's Watch with a kayak strapped to his car.". The Night's Watch is a group of people who defend the *Game of Thrones* world from attackers. Jon Snow joined Night's Watch is season one of the show and it changed the course of the show.

In the following example from S09EP21, Sheldon asks the group if they are up-to-date with *Game of Thrones* and Penny sarcastically responds that she thinks she is and says that "all the hot guys are dead" on which Sheldon replies that "Theon Greyjoy looks pretty good for a guy who had his genitals cut off.". This is a reference to the scene in later seasons of *Game of Thrones*. Theon Greyjoy was captured and tortured by Ramsay Snow.

The Game of Thrones examples do not have any common line of reference. Just like most of the examples, they are used for comic relief and for characters' personal interest.

As all of these examples are from other TV shows, all of them are part of 'horizontal' intertextuality. All the examples put emphasis and focus on the delivery of the joke itself rather than the TV show. This makes them part of 'manifest' intertextuality. These TV shows are used as examples of intertextuality because they are all very popular and it should be easier for the audience to understand the intertextual reference.

11 Intertextuality in video games

Video games are also a big part of the science fiction community. However, in The Big Bang Theory, they are not as represented as movies and books are. These two examples are the most prominent ones because each game got an entire episode. This section will explain references related to two famous video games.

The group is playing a video game called *Age of Conan* throughout the S03EP03. Penny comes to the apartment and decides that she might play the game. Days passed and no one saw Penny during that time. It turns out that she got addicted to the video game and constantly asks Sheldon about it. This whole episode is filled with references about Age of Conan. Sheldon instructs Penny

which spells to use to fight the enemy. He tells her to use 'Frenzy stance' and 'Hateful strike' when fighting an undead player. He also tells her to use 'Healing potion' when her life points get critically low. There is also a reference to the dungeon called the 'Treasury of the Ancients' which is located in the eastern region of Khopshef Province.

In another video game related example from S04EP19, Sheldon called the police and informed Leonard that everything had been stolen. Leonard and the policeman ask Sheldon what was stolen and he replies that "They got my enchanted weapons, my vicious gladiator armour, my wand of untainted power, and all my gold.". He adds that "The mighty Sheldor, level 85 blood elf, hero of the Eastern kingdoms, has been picked clean, like a carcass in the desert sun." and that they also took his battle ostrich. The policeman is upset and says that the police don't have jurisdiction in Pandora. Sheldon corrects him and says that Pandora is from *Avatar* and adds that *World of Warcraft* takes place in Azeroth. The following segment will further explain each intertextual reference.

- Enchanted weapons is a reference to the profession in *World of Warcraft* called 'Enchanting'. It allows the player to empower their weapon with special abilities and effects.
- Vicious gladiator armour is a reference to the very powerful set of armour that a player gets by participating in player versus player combat.
- Blood elves are a playable race in *World of Warcraft*. They look like elves, but their skin and color of their hair and eyes is very bright.
- Eastern Kingdoms are one of two main continents in *World of Warcraft*. Eastern Kingdoms is located on the plain of Azeroth.

All of the examples recorded in the corpus belong to 'constitutive' intertextuality as the show puts emphasis on the games themselves. When the characters are playing a video game or have a situation regarding one, it usually lasts for the whole episode in which the game is further explained to the audience because not all members of the SF community are playing games. They usually spend their free time watching SF movies and shows.

12 Intertextual references related to actors and celebrities

The Big Bang Theory has entire episodes related to an actor or celebrity. Sometimes, the actors themselves join the group's adventures. This section will investigate which actors appear in the show and which are only mentioned by name or anything else related to them. This section will also explain intertextual references related to actors and celebrities.

This section has seven intertextual references. However, almost half of them can be perceived as that they were delivered by spoken word or by some kind of appearance and all of these examples are related to the guest star appearing in the show. There is also an example of impersonation when Howard is talking like three very famous actors.

In this example from S01EP13, Howard, Raj, and Leonard are looking for a fourth player for their physics bowl team. Raj says that the girl who played TV's Blossom is supposed to be very smart because she has a PhD in neuroscience. Leonard denies his suggestion and says that they are "not getting TV's Blossom to join our physics bowl team.". This is a reference to the actress Mayim Bialik who later played Amy Farrah Fowler in The Big Bang Theory. Just like Mayim has a PhD in neuroscience, her character in the show also has it and she works at the university with the group.

The group is in the coffee shop during a scene from S02EP04 and Raj is very rude towards the rest of the group because he is going to be in People magazine. The group leaves because they do not want to talk to him anymore. Raj turns around and tells someone that he is going to be in People magazine. Charlie Sheen turns around and says "Yeah, call me when you're on the cover.". Charlie Sheen frequently appeared on the cover of the magazine sometimes accompanied by his fellow actors or even his life partners.

The group is traveling by train in S02EP17. They all spot a familiar face and they realize it is Summer Glau. They all wonder why she is on the train and Leonard says that "Maybe John Connor's aboard and she's protecting him from an evil Terminator.". Sheldon says that is probably not the case because Leonard is talking about a TV show. However, Sheldon adds that "if SkyNet actually did exist in the future, a perfect way to infiltrate and destroy mankind would be to send Terminators back posing as actors who have played Terminators in popular films and television series, lulling us into a false sense of security". These are all references to the TV show called *Terminator: The Sarah Connor Chronicles*. Leonard's line is a reference to one of the main characters in the show. John Connor sent a Terminator from the future to protect him in the present. Sheldon's line is a reference to the main antagonist of the show – SkyNet. They are an artificial intelligence army and their purpose is to destroy humanity.

Howard is narrating a game in Leonard's and Sheldon's apartment in S06EP23. His impersonations are very well received so the group asks him to impersonate some actors. He impersonates Nicolas Cage, Al Pacino, and Christopher Walken. Howard impersonated a famous scene from the movie *And Justice for All*. In the scene Al Pacino yells that "This whole court is out of order!" while in the game Howard yells "You're playing D&D. You're playing D&D. This whole apartment is playing D&D.".

In the following example from S09EP08, Sheldon made a game which he uses to find a new girlfriend. The game is almost over and Sheldon wonders if the girl who is going to win the game is Jennifer Lawrence. Howard does not understand what Sheldon is talking about and asks him about more information. Sheldon replies that the last *Hunger Games* were not his cup of tea. Sheldon calms him and says that Sheldon thought she did good in *X-Men.* Jennifer Lawrence starred in both of these movies.

Howard, Raj, and Leonard are talking about Batman throughout S09EP17. Raj says that Adam West is his favorite Batman right after Michael Keaton, Christian Bale, and Batman from The Lego Movie. However, Raj adds that Adam West beats George Clooney. Adam West later joins the group and they continue their talk about their favorite Batman. They discuss their Batman ranking and Raj says that Keaton is number one because he brought a sense of humor to the role. Adam West says that "if you're gonna factor in a sense of humour, then I should be at the top of the list. It should be me, Keaton, Kilmer, Lego, Bale, and that pretty boy Clooney.". The following segment will list all actors that played Batman and which Batman movie they were in:

- Michael Keaton – Batman (1989)
- Christian Bale – Batman Begins (2005), The Dark Knight (2008), The Dark Knight Rises (2012)
- Adam West – Batman (1966)
- Val Kilmer – Batman Forever (1995)
- George Clooney – Batman & Robin (1997)

One of the characters outside of the group that frequently appears in the show is Wil Weathon. Sheldon frequently makes jokes due the fact that Wil Wheaton starred in a movie called *Stand By Me* and in TV show *Star Trek: New Generation*. Wil Wheaton, during an argument with Sheldon, said "that's right Sheldon, embrace the dark side." and Sheldon responded that it is not even his franchise.

None of the aforementioned types of intertextuality stands out too much from others when talking about these examples. This is due to the fact that actors are talked about or starred in the show in order to increase the views and to bring comic relief.

13 Intertextuality in The Big Bang Theory - songs

Intertextual examples related to songs aren't as represented as books, movies, and TV shows. This section will investigate if the songs are anyhow related to the science fiction community, while also explaining the intertextual references related to them.

The first intertextual reference to a song occurs in S05EP01 when Penny and Raj spent the night together. However, they realized they did not have intercourse. They agreed that they will not ever mention it again and Raj asks Penny if he can "tell people that our love burned too bright and too quickly? Kind of a Candle in the Wind deal?". This is a reference to the song by Elton John. The verse that Raj is referring to is:

"And it seems to me you lived your life
Like a candle in the wind
Never knowing who to cling to
When the rain set in
And I would have liked to have known you
But I was just a kid
Your candle burned out long before
Your legend ever did"

In another scene from S07EP01, Penny says that she misses Leonard and wonders what is he doing right now. Sheldon says that they could call him. He corrects himself: "I mean that you could call him. As I've explained, the absence of my friends does not cause me pain. As rock and roll bad boy Paul Simon once said, I am a rock, I am an i-i-i-island.". This is a reference to the song by Simon & Garfunkel. What Sheldon meant to say is that he is distanced from everyone and everything.

A road trip featured in S08EP19 shows Sheldon and Leonard going to the Skywalker ranch owned by George Lucas. Sheldon says that he is "so excited. And I just can't hide it.". Leonard quickly follows: "I'm about to lose control, and I think I like it.". Sheldon is surprised and asks Leonard what is he talking about. This is a reference to the song by The Pointer Sisters. Their song has the same line that Sheldon said and Leonard followed Sheldon with the next line in the song.

In S10EP14, Sheldon invented an emotion detector and tells Leonard that "if you're happy and you know it, no need to clap your hands because I have an emotion detector.". This is a reference

to a kids song that is called ‘If You’re Happy’. The singer asks the children to clap their hands, to stomp their feet, to yell ‘Hurray!’, and to repeat all three if they are happy.

The songs in the show aren’t related to the science fiction community. They are only used for comic relief in a given context.

14 Conclusion

The main purpose of this work was to interpret intertextual references in The Big Bang Theory and to see which means of delivery are the most prominent.

The research done has found that the most frequent means of delivery is through speech with 93 total references out of 127.

The paper has also explored which sphere of the science fiction world is predominant. There are 127 intertextual references in total and Star Wars has 12 and Star Trek follows with only one less. Other sections such as DC have more intertextual references but those references are a combination of all DC's movies, comics, characters, etc. This shows that the Star Wars and Star trek series had the most intertextual references. Some episodes in The Big Bang Theory were completely dedicated to them.

As it is previously mentioned, the most frequent way that the intertextual reference is delivered is by speech. However, ways such as appearance, impersonations, songs, and gestures should also be noted. They are not as frequent as speech deliverance, but they are also very important for the show. Appearances take the second place with 14 intertextual references, followed by impersonations with 12 intertextual references. The least intertextual references have songs and gestures with 6 and 2 intertextual references.

'Vertical intertextuality', as mentioned before, entails references in the book derived from song and vice versa. 'Vertical intertextuality' was represented by 119 intertextual references due to the fact that most of the references in the show are related to movies, books, and comics. This puts emphasis on the education of the audience about new topics, while at the same time puts works previously known by part of the audience in a new light. This entails making the audience like their favorite work even more just because it is mentioned in another TV show and sometimes, even further explained. On the other hand, 'Horizontal intertextuality' entails references that are the same with regards to their source, i.e. books making references to books, songs to songs. 'Horizontal intertextuality' is prominent in the sections regarding *Star Trek* and other TV shows. This type of intertextuality puts emphasis on works which are similar to *The Big Bang Theory*. This will be further explained in the following paragraph.

'Manifest' and 'constitutive' intertextuality have almost the same number of intertextual references. The first intertextuality puts emphasis on intertextual references such as parody, irony, presupposition, etc. On the other hand, 'constitutive' intertextuality puts emphasis on interrelationship of discursive features such as form, genre, and structure. 'Manifest'

intertextuality is used in order to make the audience laugh about topics unrelated to the plot of the show. ‘Constitutive’ intertextuality has plenty of examples in sections which are related to the science-fiction genre and as aforementioned, when combined with ‘horizontal intertextuality’, it often stretches along length of an entire episode, catering to the preferable genre (and possible the sociolinguistic makeup) of the audience making it a great viewing experience for the audience.

It cannot, but should potentially, be measured which intertextual reference is the most appealing to the audience mostly consisted of nerds and geeks as there are no metrics to judge the ways of delivery by itself. However, they achieved the purpose of introducing other aspects of life to the audience, teaching the audience something new, and eliciting laughter, which is one of the goals of using intertextuality.

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List of *The Big Bang Theory* episodes (2007-2019)

Season 1, episode 6 *The Middle Earth Paradigm*

Season 1, episode 7 *The Dumpling Paradox*

Season 1, episode 8 *The Grasshopper Experiment*

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Season 1, episode 11 *The Pancake Batter Anomaly*

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Season 2, episode 7 *The Panty Pinata Polarization*

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Season 2, episode 23 *The Monopolar Expedition*

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Season 3, episode 7 *The Guitarist Amplification*

Season 3, episode 12 *The Psychic Vortex*

Season 3, episode 13 *The Bozeman Reaction*

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Season 3, episode 17 *The Precious Fragmentation*

Season 3, episode 18 *The Pants Alternative*

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