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A Process of Meaning Creation: An Analysis of Space Tourism Posters via Semiotic Analysis

Bir Anlam Yaratma Süreci: Uzay Turizmi Posterlerinin Göstergibilimsel Analiz ile Çözümlemesi

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Abstract

Space tourism is considered as a type of tourism that is becoming increasingly significant and is expected to be in greater demand in the future. Therefore, the aim is to analyse the posters on space tourism created by NASA via semiotic analysis, a strategy of data analysis. In accordance with the set objective, a document analysis technique was used. Since the fourteen posters used for the study were created by NASA, a major organization in the field of space, it was selected as an appropriate sample. The space tourism posters identified in the study were analysed through the model developed by Ferdinand de Saussure and Roland Barthes. Each indicator showed that the utopian posters were closely related to the types of tourism. In addition, the indicators led to the conclusion that individual and mass tourism movements related to space can be carried out by people of all ages, that in the future it will no longer be luxury tourism, and that transportation will be carried out by various means of transport, and in accordance with these conclusions, suggestions were made for tourism businesses.

Key Words: Anahtar Kelimeler: Space Tourism, Poster, Semiotic Analysis, NASA.

Öz

Uzay turizmi, önemi giderek artan ve gelecekte daha fazla talep görmesi beklenen bir turizm çeşidi olarak görülmektedir. Dolayısıyla araştırmada NASA tarafından oluşturulan uzay turizmi posterlerinin bir veri analiz stratejisi olan göstergibilimsel analiz ile çözümümlenmesi amaçlanmıştır. Belirlenen amaç doğrultusunda doküman inceleme tekniğinden yararlanılmıştır. Araştırmada kullanılan on dört adet poster, uzayla ilgili önemli bir kuruluş olan NASA tarafından oluşturulduğu için örneklem olarak seçilmeye uygun görülmüştür. Araştırma kapsamında belirlenen uzay turizmi posterleri Ferdinand de Saussure ve Roland Barthes'in geliştirmiş olduğu modele göre çözümlenmiştir. Her bir gösterge, ütopya posterlerinin turizm çeşitleri ile yakından ilişkili olduğu sonucunu ortaya koymuştur. Ayrıca göstergeler uzaya ilişkin bireysel ve kitlesel turizm hareketlerinin her yaşta kişi tarafından gerçekleştirilebileceği, gelecekte lüks turizm olmaktan çıkacağı ve çeşitli ulaşım araçları ile ulaşımın sağlanacağı yönünde çıkarımların yapılmasını sağlamış ve bu çıkarımlar doğrultusunda turizm işletmelerine önerilerde bulunulmuştur.

Anahtar Kelimeler: Uzay Turizmi, Poster, Göstergibilimsel Analiz, NASA.

1. Introduction

With the development of popular culture and technology, extraordinary types of tourism beyond experience have emerged (Değişgel, 2019). One of these types is space tourism, which is preferred by people seeking new and unique adventures (Danov, 2020). It is argued that space tourism will be one of the largest niche markets in the future (Goechlich et al., 2013) and that high profits will be made from space tourism. It is also believed that space tourism will remove economic, political and cultural boundaries (Collins, 2006).

There are very few companies in the world that organize space travel. Virgin Galactic (Berry, 2012), which facilitated space travel through the competition initiated by aerospace company Scaled Composites in the 2000s, is one of the leading companies in terms of continuous advertising campaigns and allocated budgets (Mekinc and Boncina, 2016). Another private company is Mars One (Mekinc and Boncina, 2016). The Mars One project received thousands of applications for a one-way trip in 2024 (Değirmenci, 2014). Space X, a space tourism agency, aims to take people to the moon and make tourist trips to Mars. Blue Origin and Orion Space also plan to offer orbital travel (Hürriyet, 2021). It has also been announced that a hotel will be built at the Voyager Station developed by the Orbital Assembly Corporation (OAC) in 2027 (CNN TÜRK, 2021). Thanks to the companies interested in space tourism, it is predicted that the tourism industry will receive a larger share from this field and the companies related to the tourism industry will be able to expand their activities in this direction. It is believed that this situation will directly affect tour operators and travel agencies. Therefore, space tourism, which is considered as a part of luxury tourism, can bring high profits to tourism companies.

The meaning to be reflected about space tourism through the posters presented by NASA under the name of “*Visions of the Future*” made it necessary to conduct research on this subject. The aim of this research is to analyse the posters entitled “*Visions of the Future*” through semiotic analysis. Semiotic analysis applied in research is a method used in the field of tourism (Hunter, 2016; Belber, 2017; Öztürk and Çivici, 2018; Gretzel and Mendonça, 2019; Akkuş and Büyükyılmaz, 2020; Naghizadeh, 2021). However, the limited number of studies (Civelek Oruç and Türkay, 2019) in which cartoons or posters for space tourism are examined by semiotic analysis and the examination of utopian space tourism posters published by NASA in terms of creating meaning reveals the significance and difference of the research. Researchers have used the semiotic analysis method to examine the indicators and to read the communication processes between each other as a text and to examine the relationship between these indicators. In this regard, the documents on space tourism posters were studied in depth and what these posters meant in terms of tourism was interpreted. The study and presentation of space tourism posters, which is a significant form of tourism, has also contributed to the literature. Therefore, this research explores space tourism from a different perspective and method, providing a creative perspective to both the literature and method. In this context, a literature review on the concept of space tourism was first conducted and the theoretical background was shown. Then, the necessary analyses were carried out in the context of the research and the results were interpreted in detail.

2. Literature

The concept of space tourism in this study is based on the experience components model developed by Walls et al. (2011). According to this model, internal and external

factors, physical experiences, social interaction, individual characteristics and situational factors influence the tourist experience, and the tourist experience consists of four components: Ordinary, extraordinary, cognitive and emotional. Individuals fancy having a personalized tourism experience and feel different (Toivonen, 2017). This has led to the development of space tourism, a fascinating type of tourism for those seeking new and unique adventures (Danov, 2020). Space tourism is defined as “a range of activities conducted at various distances from Earth, such as space-related visits and tourism activities, high-altitude suborbital flights, global suborbital flights, short-duration orbital flights, longer-duration orbital flights, and tourism activities across the globe” (NASA, 2021). In addition, there are three basic types of space tourism: Terrestrial space tourism, atmospheric space tourism and astrotourism. Terrestrial space tourism includes tours of space simulation devices and space facilities, as well as tours of eclipses, satellite observations and stargazing tours related to space tourism. Atmospheric space tourism includes high altitude jet aircraft tours and zero gravity tours, and astrotourism includes extraorbital tours (Lunar and Mars tours) and Earth orbit tours (Neagu, 2018).

Although space tourism is not yet widespread, it is one of the emerging trends, and space travel is occurring on a limited scale. Space tourism, which is a privatised part of the space industry (Johnson and Martin, 2016), also has its limitations such as travel costs, activity restrictions, travel time, accommodation, safety and health (Prideaux and Singer, 2005). However, even though it has its limitations, billionaires are in the race for space tourism (NTV, 2021). The world’s first tourist space experience was the 2001 trip to the International Space Station by American Denis Tito on the Russian shuttle “Soyuz”, who paid \$ 20 million for space tourism. Mark Shuttleworth travelled to space in 2002, Gregory Olsen in 2005, Anousheh Ansari in 2006, Charles Simonyi in 2007, Richard Garriott in 2008 and Guy Laliberte in 2009 (Pelt, 2005; Ross et al., 2010; Shiryayevskaya, 2011, Danov, 2020). Finally, in 2021, four tourists took a three-day tour without professional astronauts in the capsule of the SpaceX company (NTV, 2021). Businessman Jared Isaacman, who paid for this tour in 2021, expressed his feelings towards space travel by saying, “*This is the first step toward a world where ordinary people can travel to the stars and have adventures there*” (TRT News, 2021).

Although space tourism seems like a dream, people are adapting to the ever-evolving and changing world day by day, and these innovations are attracting the attention of tourists (Chang, 2017). It is claimed that space tourism will be one of the largest markets in the future due to the emergence of innovative technologies and increasing global competition, and space tourism, which seems like a dream, will draw the attention of adventurous tourists (Apel, 1997; Chang, 2017). Moreover, with new prospects, space tourism will be a commercial sector that can create serious jobs in the future (Webber, 2013). Depending on these developments, space tourism will develop, become cheaper and be socially accepted (Johnson and Martin, 2016).

The semiotic analysis method employed in the research has been utilised in many studies in the field of tourism. While some researchers examined photographs through semiotic analysis (Pennington and Thomsen, 2010; Elgün et al., 2013; Aşan, 2014; Hunter, 2016; Akkuş and Büyükyılmaz, 2020; Atay, 2020; Naghizadeh, 2021), others examined tourism posters (Güdekli et al., 2016). Similarly, tourism cartoons (Civelek Oruç and Türkay, 2019), tourism promotional films (Belber, 2017; Civelek Oruç and Türkay, 2018; Öztürk and Çivici, 2018), tourism-related websites (Gretzel and Mendonça, 2019) and social media posts (Aylan, 2020) were examined and discussed via the same method. On the other hand, this study differs from other studies in terms of examining space tourism posters through semiotic analysis.

3. Method

Qualitative research method was used to analyse and interpret space tourism posters. The question “*What is meant by space tourism posters?*” represents the research problem. NASA submitted a series of posters entitled “*Visions of the Future*” to the Jet Propulsion Laboratory (JPL) department’s design studio to promote space tourism and create perspectives of space tourism among people (NASA Jet Propulsion Laboratory, 2021). The documents related to these posters published by NASA were studied in detail. Therefore, the technique of document analysis was used as a tool to collect in the research and ethics committee approval was not required for the study. The document is expressed as “*everything available preceding the research*” (Merriam, 2018: 131-132). Written materials and videos that are significant documents related to planets and exoplanets in the poster were examined to properly interpret the space tourism posters discussed in the research. In addition, fourteen tourism posters that are included in the research form the research sample. Since the posters were created by NASA, a major organization in the field of space travel, they were considered appropriate to be selected as the sample.

Semiotic analysis was utilised as a strategy for data analysis. The concept of sign is used in the field of linguistics. The concept of sign was introduced to explain the item that consists of a combination between the signifier and the signified image. A sign is defined as “*an item that shows something outside itself*” (Barthes, 1979: 9). Semiotics means “*science of sign systems*”. The clearest definition of semiotics was offered by Ferdinand de Saussure, the founder of linguistics, as “*the item that combines a concept and an auditory image*”. The auditory image is expressed as the sound structure of the sign and the concept as the semantic content (Guiraud, 1994: 8).

Semiotics is used to study signs and attempts to analyse sign systems. The main aim of semiotics is to read various communication processes as text, to study the connections between signs and accordingly to explain the relationships between signs (Parsa and Parsa, 2012). The process of analysis in semiotics begins with the collection of data. It then ends with the analysis and interpretation of the data. Therefore, semiotic analysis allows the researcher to unleash his/her creativity (Echtner, 1999). In this research, each of the posters was examined in depth and then individually evaluated and interpreted in terms of the authors’ creativity.

In order to create a sign, there must be a signifier and a signified. The signifier expresses the physical and material dimension of the sign, and the signified expresses the conceptual and mental dimension of the sign. The signifier refers to the “*plane of expression*” and the signified refers to the “*plane of content*”. The combination of the two is a kind of interpretation. Interpretations can be interwoven with each other. In other words, interwoven interpretations result from the strands formed by the arrangement of words. The first chain is called “*denotation*” and the second chain is called “*connotation*” (Barthes, 1979; Barthes, 1993; Erkman Akerson, 2006). Denotation refers to what the sign represents, while connotation refers to how the sign is represented (Barthes, 1979).

Semiotic analysis is a purely scientific method of research. Therefore, it is very important to ensure validity and reliability (Erkman Akerson, 2006). In qualitative research, credibility, transferability, consistency and confirmability are effective in determining validity and reliability (Yıldırım and Şimşek, 2013; Creswell, 2018; Merriam, 2018). In addition to all these, conducting the research in accordance with

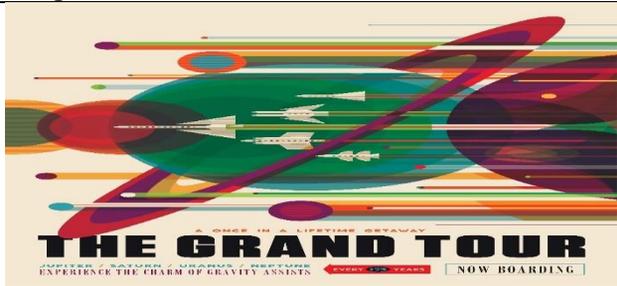
ethical rules positively affects the validity and reliability of qualitative research. To ensure the validity and reliability of this study, space tourism posters were examined in detail by the authors and the results were compared. In writing the study, care was taken to convey the findings in an accurate and understandable manner. Moreover, the method by which the research findings were obtained is described in detail in the study. It was found that the results of the research are consistent with the findings obtained. On the other hand, it was possible to indirectly generalize the research results and to associate the readers with their own experiences. Thus, in the research, the principles of credibility, transferability, consistency and confirmability were followed and validity and reliability were ensured (Yıldırım and Şimşek, 2013; Creswell, 2018; Merriam, 2018).

The space tourism posters identified in the study were analysed via the model developed by Ferdinand de Saussure and Roland Barthes. In other words, for each poster, the sign, the signifier and the signified were determined and interpreted by including denotations and connotations. In other words, for each poster, the sign, the signifier and the signified were determined and interpreted by including denotations and connotations.

4. Results

The utopian posters discussed in the research were published on the official website NASA under the main title “*Exotic Cosmic Destinations as Space Tourism Posters*”. The posters were created by a team of visual strategists. Scientists, engineers, and communicators brainstormed and fourteen tourism posters were created by nine artists, designers, and illustrators (NASA Jet Propulsion Laboratory, 2021). In the study, the sign, the signifier and the signifier for each poster were included in the table, and the posters were interpreted considering denotation and connotation.

Table 1: Poster of The Grand Tour for Space Tourism

Image 1	Sign	Signifier	Signified
	Means of Transport	Jet Plane	Travel
	Place	Planet	Interplanetary Travel
	Written Code: A Once in a Life Time Getaway The Grand Tour Jupiter/Saturn/Uranus/Neptune Experience the Charm of Gravity Assists Every 175 Years Now Boarding		

Source: NASA Jet Propulsion Laboratory, 2021

NASA comments that the planets in the solar system will align every 175 years. Also, NASA notes that the Voyager spacecraft has obtained detailed information about Jupiter, Saturn, Uranus and Neptune. The poster features jet planes and planets (Denotation). Jet planes are reminiscent of travel, but also suggest that journey will be quite fast. The poster also shows the planes in a certain order and intertwined. This situation suggests that interplanetary travel in space is possible and that the travels may occur in a certain order (Connotation). There is text on the poster (Denotation). With this text it is explained that once in a lifetime, a great journey to the planets Jupiter, Saturn, Uranus and Neptune can take place, the gravitational attraction of

these planets can be experienced, but the great journey can take place every 175 years and now is the time for this journey (Connotation).

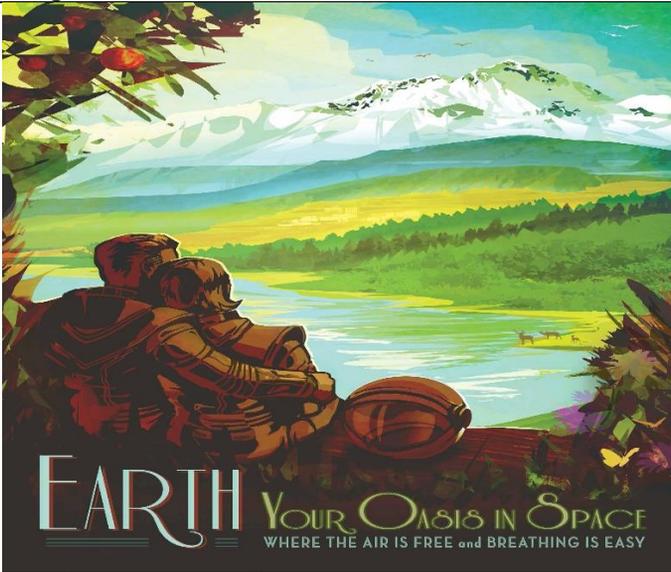
Table 2: Mars Poster for Space Tourism

Image 2	Sign	Signifier	Signified
	Vehicle	Robotic Vehicle	Advanced Technology and Exploration
	Structure	Building	Public Transport and Settled Life
	Industrial Organization	Factory	Production and Consumption
	Human	Human Face	Life on Mars
	Solar Radiation	Wave	Energy Emission and Danger
	Nature	Mount Olympos	Life
	Nature	Water/ Ground Water	Life
	Nature	Wheat	Life
Written Code: Visit the Historic Sites Mars Multiple Tours Available Robotic Pioneers/Arts & Culture/Architecture & Agriculture			

Source: NASA Jet Propulsion Laboratory, 2021

NASA shows whether Mars is a habitable planet. This poster envisions a day in the future. It predicts that one day the historical sites on Mars will be visited. It also says that humans will respect the robot pioneers. The poster features a robotic vehicle, a building, a factory, a human, waves of radiation, Mount Olympos, water and an ear of wheat (Denotation). The poster suggests that there will be advanced technology on Mars, that there will be collective life, sedentary life, and accordingly production and consumption, and that there will be mountains, seas, and fields that will be farmed. Despite all this, it also shows that solar radiation is very high and will pose a danger (Connotation). There is text on the poster (Denotation). This text, on the other hand, indicates that historical sites can be visited on Mars, meaning that, there was life in the past, that many sightseeing plans could be carried out, and that there could be robot pioneers, art, culture, architecture and agriculture. All this shows that cultural tours are possible on Mars (Connotation). Since Mars is known as a red planet, it is understandable that the colour red is used in the background of the poster.

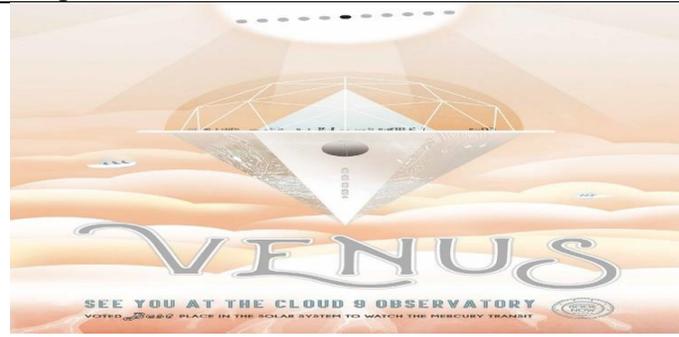
Table 3: World Poster for Space Tourism

Image 3	Sign	Signifier	Signified
	Human	Wrapped Woman and Man	Family
	Animal	Deer, Bird and Butterfly	Animal Diversity
	Object	Helmet	Presence of Oxygen
	Nature	Cloud	Presence of Water
	Nature	Mountain	View
	Nature	River	Life
	Nature	Green Field	Richness in Vegetation
	Nature	Apple Tree	That Life Began on Earth
Written Code: Earth Your Oasis in Space Where the Air is Free and Breathing is Easy			

Source: NASA Jet Propulsion Laboratory, 2021

NASA states that the planet suitable for life is Earth. The poster shows a couple embracing, animals, a helmet, a cloud, a mountain, a river, a green meadow and an apple tree (Denotation). The poster emphasizes that humans and animals live on Earth, i.e., Earth is the place where life first began, a planet with plenty of oxygen and rich in vegetation. The poster features cloudy and sunny weather, a snow-covered mountain, vegetation in various shades of green, and different seasons on Earth. Also, the fact that there is a flowing river indicates that life on earth is sustainable (Connotation). There is text on the poster (Denotation). The poster depicts the earth as a place where people are happy, can breathe easily and oxygen is free of charge.

Table 4: Venus Poster for Space Tourism

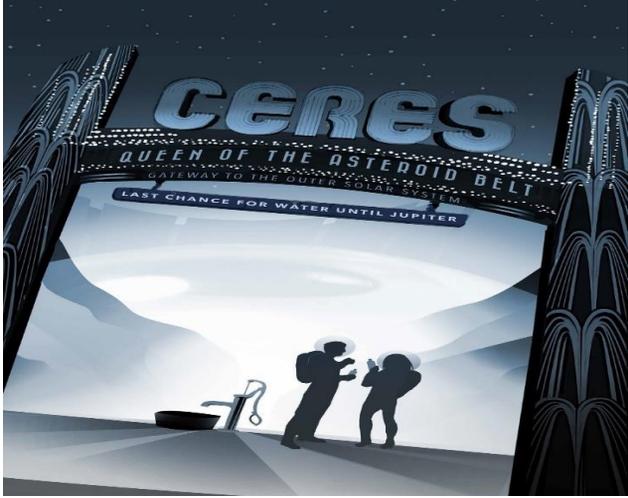
Image 4	Sign	Signifier	Signified
	Human	Woman and Man	Activity
	Vehicle	Capsule	Travel
	Nature	Cloud	Presence of Water
	Nature	Sun	Light and Heat
Written Code: Venus See You at the Cloud 9 Observatory Best Place in the Solar System to Watch Mercury Transit Book Now			

Source: NASA Jet Propulsion Laboratory, 2021

NASA notes that urban life appears above the clouds. The poster displays a large number of people, a capsule as a means of travel, a cloud, and the sun

(Denotation). The presence of the sun can be associated with Venus being the hottest planet. It is also said that there is a city above the clouds and that many people live there. On the other hand, it is emphasized that people travel (Connotation). Again, there is text on the poster (Denotation). On the planet Venus, there is an observatory called “*Cloud 9*”. It is claimed that this observatory is the best place in the solar system to observe Mercury. However, it is recommended to make a reservation (Connotation).

Table 5: Ceres Poster for Space Tourism

Image 5	Sign	Signifier	Signified
	Human	Woman and Man	A Liveable Place
	Furniture	Helmet	Lack of Oxygen
	Object	Water Bottle	Drinkable Clean Water
	Object	Water Pump	Presence of Water
	Symbol	Entrance Door	Entrance to the Asteroid Belt
	Sky	Star	Appearance of Celestial Objects
	Written Code:		
Ceres			
Queen of the Asteroid Belt			
Gateway to the Outer Solar System			
Last Chance for Water until Jupiter			

Source: NASA Jet Propulsion Laboratory, 2021

NASA states that Ceres is the closest dwarf planet to the Sun. It is also the largest object in the main asteroid belt between Mars and Jupiter and is supposedly made of ice and rock. The poster displays a man and a woman, helmets, a water bottle, a water pump, a large entrance gate, and countless stars (Denotation). This poster indicates that there is no oxygen on Ceres, but that Ceres can be visited with an oxygen supply, that there is clean drinkable water, that it is located in the Asteroid belt and that there are many stars in the sky. The colour choice of the planet, which is said to be made of ice and rock, also supports this situation (Connotation). There is text on the poster (Denotation). It is said that Ceres is the queen of the asteroid belt, meaning the largest object, a gateway or portal to the outer solar system, that there is no water anywhere else until they go to the planet Jupiter and they have to take the water from here (Connotation).

Table 6: Jupiter Poster for Space Tourism

Image 6	Sign	Signifier	Signified
	Object	Balloon	Travel by Balloon
	Sky	Star	Appearance of Celestial Objects
	Sky	Coloured Lights	Dream of Seeing the Northern and Southern Lights
	Sky	Cloud	Gas Cloud
	Written Code: Experience the Mighty Auroras of Jupiter		

Source: NASA Jet Propulsion Laboratory, 2021

NASA explains that Jupiter, which is a cloud of gas, has the most beautiful light show in the solar system, with northern and southern lights. The poster shows a balloon, a star, coloured lights, and a cloud (Denotation). The poster indicates that it is possible to take a balloon ride on Jupiter, and have an unforgettable experience in a landscape as stunning as the northern and solar lights. It also implies that if you take a balloon ride, you will be able to see the stars and gas clouds in the sky (Connotation). The text (denotation) on the poster recommends taking a trip to Jupiter. Furthermore, the balloon ride suggests that balloon tourism can be used as an alternative form of tourism (Connotation).

Table 7: Enceladus Poster for Space Tourism

Image 7	Sign	Signifier	Signified
	Human	Woman and Man	An Elderly Couple
	Animal	Dog	A Suitable Place for Animals to Live
	Object	Walking Stick	Gait Disturbance
	Vehicle	Capsule	Travel
	Nature	Ice Crystals	Cold
	Sky	Planet	Other Planets Visible
	Sky	Star	Seeing Stars Easily
Written Code: Visit Beautiful Southern Enceladus More Than 100 Breathtaking Geysers The Home of Cold Faithful Booking Tours Now			

Source: NASA Jet Propulsion Laboratory, 2021

NASA states that Saturn’s moon Enceladus will have ice-resistant jets and Enceladus will become a habitable place. The poster displays a man and a woman, a dog, a walking stick, a capsule, ice crystals, planets and stars (Denotation). The poster shows that even an elderly couple and animals that have difficulty walking on this very cold satellite can easily travel and see other planets and stars (Connotation). The poster is accompanied by text (Denotation). While the text suggests a visit to Enceladus, it says that there are more than a hundred hot springs there and a reservation can be made right away. The presence of an elderly couple on the poster and the presence of hot springs also suggest that Enceladus is a suitable satellite for third age tourism (Connotation).

Table 8: Titan Poster for Space Tourism

Image 8	Sign	Signifier	Signified
 <p>The poster shows a sunset over a dark, liquid sea on Titan. The sky is a mix of orange and black. The text 'TITAN' is written in large, stylized letters at the bottom, with the tagline 'RIDE THE TIDES THROUGH THE THROAT OF KRAKEN' below it.</p>	Star	Saturn	Saturn Landscape
	Vehicle	Boat	Travel
	Human	Woman, Man and Child	Family Trip
	Nature	Sea	Presence of Water
	Written Code:		
Ride the Tides through the Throat of Kraken			

Source: NASA Jet Propulsion Laboratory, 2021

NASA reveals that Titan, Saturn’s largest moon, has a dense atmosphere, rich chemistry, and a surface with rivers, lakes, and seas of liquid ethane and methane. The poster depicts the planet Saturn, the boat, humans, and the Kraken, the largest sea on Titan (Denotation). It is explained that with the trip to Titan, a family boat trip with a view of Saturn can be made (Connotation). The Kraken Sea is depicted on the poster in black and dark brown (Denotation). By these colours, it is meant that the Kraken Sea is denser and darker than the sea on Earth (Connotation). In addition to these, there is text on the poster (Denotation). It is believed that tours can be made thanks to the transport vehicles in the Kraken Strait. All this information suggests that Titan is suitable for yacht tourism, which is one of the alternative types of tourism.

Table 9: Europa Poster for Space Tourism

Image 9	Sign	Signifier	Signified
 <p>The poster shows a blue, icy landscape of Europa. In the foreground, the silhouettes of three people are looking out at a large, glowing blue structure that resembles a scuba diving tank or a space station. The text 'EUROPA' is written in large, stylized letters at the bottom, with the tagline 'DISCOVER LIFE UNDER THE ICE' below it.</p>	Human	Male and Female Visitors	Exploration and Fun
	Human	Person Scuba Diving	Diving and Discovering Marine Life
	Animal	Octopus	Presence of Sea Creatures
	Place	Aquarium	Presence of Sea Creatures
	Written Code:		
Europa Discover Life Under the Ice			

Source: NASA Jet Propulsion Laboratory, 2021

NASA points out that there is a salty ocean beneath the icy surface of Jupiter's moon Europa, which is much larger than Earth's oceans. The poster features visitors, people diving in the aquarium, and octopuses (Denotation). The poster explains that there is life under the glaciers of the satellite Europa and that this life can be observed by people in the future for research and entertainment purposes, as if they were observing an aquarium. It is indicated that people who visit the satellite Europa will be able to observe life not only from the outside, but also by diving. The octopuses on the poster indicate the existence of various sea creatures under the ice sheet. With the text (Denotation) on the poster, it is recommended to discover the life under the glaciers on Europa. On the other hand, Europa is considered to be a suitable destination for diving tourism (Connotation).

Table 10: First Exoplanet Poster for Space Tourism

Image 10	Sign	Signifier	Signified
	Vehicle	Spacecraft Window	Travel in Space
	Sky	Star and Planet	Appearance of Celestial Objects
	Action	Hand	Choice-Preference
	Publication	Space Promotion Leaflets	Exoplanet Destinations in Space
Written Code: Greetings from Your First Exoplanet			

Source: NASA Jet Propulsion Laboratory, 2021

NASA refers to extrasolar planets that are outside the solar system or orbiting another star. These planets are also called exoplanets. The poster displays the spacecraft window, stars and planets, a hand, and promotional brochures on the exoplanets "51 Pegasi b", "HD 114762 b", "Gamma Cephei Ab", "PSR 1257+12 B.C.D" (Denotation). The poster explains that a journey in space has taken place and therefore celestial bodies appear. Also, a person on the poster appears to be looking at promotional brochures about exoplanets and making a choice about where to travel. The text (Denotation) on the poster supports the narrative and conveys greetings from the first outer planet (Connotation).

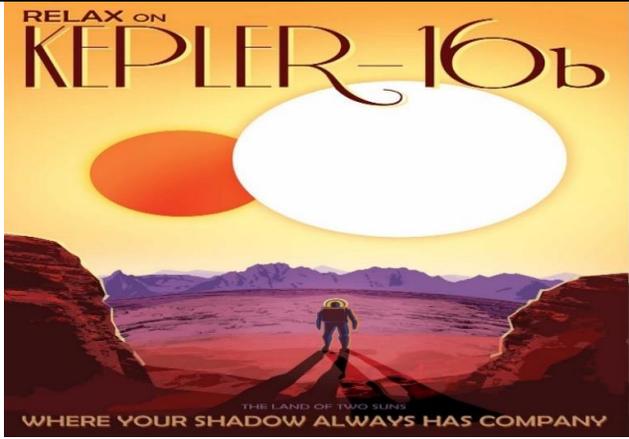
Table 11: HD 40307g Poster for Space Tourism

Image 11	Sign	Signifier	Signified
	Human	Man	Space Traveller
	Action	Flying	Seeking Adventure in No Gravity Area
	Celestial Body	Planet	Landscape of Land and Sea
	Written Code: Experience the Gravity of HD 40307g A Super Earth		

Source: NASA Jet Propulsion Laboratory, 2021

NASA points out that the volume of HD 40307g is twice that of the earth, and they are not sure whether its surface is rock, gas or ice. On the other hand, they say that gravity is much stronger. The poster features a man, the act of flying, and the planet (Denotation). It gives the impression that the person shown in the squirrel suit is a space traveller seeking adventure by jumping from a high place in a non-gravity environment to a planet where land and seas can be seen (Connotation). There is a written code on the poster (Denotation). It is pointed out that there may be differences in gravity due to the fact that it is a much larger place than Earth, and that this can be discovered on the star HD 40307g. On the other hand, the poster shows that HD 40307g is suitable for adventure tourists, and there can be adventure tours (Connotation).

Table 12: Kepler – 16b Poster for Space Tourism

Image 12	Sign	Signifier	Signified
	Celestial Body	Two Different Suns	Light and Temperature
	Human	Man	Exploration and Fun
	Object	Helmet	Oxygen-free Environment
	Object	Shadow	Presence of Two Suns
	Planet	Rock and Ice Pieces	Surface of the Planet
	Written Code: Relax on Kepler-16b The Land of Two Suns Where Your Shadow Always Has Company		

Source: NASA Jet Propulsion Laboratory, 2021

NASA states that Kepler-16b orbits the double star. The poster features the sun, a man, a helmet, shadows, rocks and chunks of ice in two different colours and sizes (Denotation). Since Kepler-16b is orbiting two stars, the poster shows two different suns. It is told that a person visits the planet for exploration and entertainment, wears a helmet due to lack of oxygen, and has two shadows. It is also shown that the surface of the planet is made of rocks and ice (Connotation). The text on the poster (Denotation) emphasizes that a pleasant journey will take place on Kepler 16-b, and that there are two sunny places and your shadow will always accompany you (Connotation).

Table 13: Kepler – 186f Poster for Space Tourism

Image 13	Sign	Signifier	Signified
	Human	Woman and Man	Tour and Exploration
	Object	White Fence	Reserved Area
	Nature	Red Tree	Presence of Different Coloured Tree Types and Vegetation
	Nature	Mountain	Natural Life
	Object	Sky	Similarity with Earth
	Written Code: Kepler-186f Where the Grass is Always Redder on the Other Side		

Source: NASA Jet Propulsion Laboratory, 2021

NASA states that Kepler 186f is an Earth-sized planet and an exoplanet orbiting Kepler 186, which is known as a red dwarf star. The poster shows a couple, a white fence, red trees, a mountain, and sky (Denotation). On this planet are a man and a woman who are exploring. They are looking at red trees next to a white fence. It is assumed that the vegetation is depicted in shades of red because it is influenced by the red dwarf star. The mountain range is depicted to create a natural ambiance. The sky is also depicted similar to the earth (Connotation). The text on the poster (Denotation) supports the presence of the red vegetation. It is described that the grass on the other side of the fence is always redder. Also, the poster shows Kepler 186-f as a suitable place for hiking and trekking (Connotation).

Table 14: PS0 J318.5-22 Poster for Space Tourism

Image 14	Sign	Signifier	Signified
	Human	Woman (Bride) and Man (Groom)	Wedding Invitation
	Human	Guest	Wedding Event
	Human	Service Personnel	Service
	Object	Musical Instrument	Entertainment
	Object	Helmet	Oxygen Deficiency
	Vehicle	Spacecraft	Accessibility
	Celestial Body	Planet	Wedding Event with Planet View
	Written Code: Visit the Planet with No Star PSO J318.5-22 Where the Nightlife Never Ends		

Source: NASA Jet Propulsion Laboratory, 2021

NASA states that PSO J318.5-22 is a wandering planet, meaning that it wanders the galaxy alone and does not orbit a parent star. It also states that there is not much information about this planet. The poster shows a bride and groom-like couple, guests, service staff, a musical instrument, a helmet, a spacecraft, and a planet (Denotation). The couple resembling a bride and groom suggests that it is a wedding invitation. It can be seen that a large number of people have accepted the invitation. Some of the guests are service staff and are offering refreshments to the guests. Others appear to be playing a musical instrument and creating a fun atmosphere. The helmet on the couple's head indicates that there is no oxygen, but still the guests continue to arrive in spaceships. This indicates that the planet is accessible. The large planet seen on the back of the poster suggests that a wedding party or entertainment is taking place along with the scenery (Connotation). Through the text on the poster (Denotation), it is emphasized that the nightlife on this planet, which tourists can choose for entertainment purposes, never ends. On the other hand, the poster reminds that another kind of tourism, wedding tourism, can also take place on this planet (Connotation).

5. Conclusion and Recommendations

With globalization, the use of information and technology has increased day by day and innovations are now being noticed by a wider mass. Thanks to the ever-evolving technology, the entire dynamics in the world have also changed and reshaped. The tourism sector, which is one of these dynamics, is facing differences in supply and demand due to technological developments (Aydın and Boz, 2018). Another factor that causes these differences is people's motives for curiosity and seeking change. Tourists today are looking for a unique experience (Bahar and Kozak, 2015). The phenomenon that can respond to this search is space tourism, which is often mentioned.

In this study, utopian posters created by NASA were examined via semiotic analysis. As a result of this research, the posters were evaluated according to various parameters and various inferences were made as a result of the evaluations. These posters depict locations in the solar system and beyond that have not yet been photographed on a human scale. In other words, these posters were created entirely through fiction and were created in order to generate an idea of space in people, to develop their imagination, and to show the possibilities of activities that could take place in the future. Considering the results of the study as a whole, the following generalizations can be made:

- In some of the posters studied, it is noticeable that only one person is depicted, while in others there are several. This situation tries to explain that space tourism in the future can be done both individually and in groups.
- The age of the people participating in space tourism is different in many posters. The posters try to explain that especially children and elderly people will benefit from this kind of tourism and that activities will be carried out for them.
- Another factor that these posters are trying to explain is that space tourism, which is only considered in the context of luxury tourism and will probably only participate in a certain segment, will change. In other words, it is explained that people from all walks of life will be able to experience space tourism in the future.
- When examining the means of transportation used in the posters, it is found that these vehicles will diversify unlike today. It is foreseen that the use of capsules, ships and private jets will increase.

- The presence of some elements on the posters shows that the current types of tourism can also be carried out in the context of space tourism. The posters are associated with types of tourism such as adventure tourism, wedding tourism, balloon tourism, third age tourism, and yacht tourism.
- It has also been shown that trekking and hiking, diving, entertainment, landscape observation, ballooning, high jumping and similar activities can be conveniently conducted in space in the future.

In the research, the semiotic analysis of the posters related to space tourism, which has been carried out in limited numbers for the moment, but whose importance is increasing day by day and attracting the attention of people, contributes to both the theory and the method. In addition, it is thought that it provides a practical contribution as a source of inspiration for tourism businesses that want to do space-related activities in the future.

The research was limited to the study of space tourism posters created by NASA. On the other hand, using only the theory of Ferdinand de Saussure and Roland Barthes in the examination of posters and preferring only semiotics as the analysis method are considered as another limitation. Some suggestions were made in line with the limitations of the study. Today, space tourism is limited due to many reasons. However, it is foreseen that travel agencies and tour operators can organize space-related tours in the future. For example, space-themed restaurants and museums can be visited or a full moon walk, and stargazing activities can be organized in the valley with 3D virtual videos. In addition, the number of space training centres that cater to people of all ages, where people can go on space walks in astronaut outfits, where real models of planets can be found, and where the zero-gravity environment can be experienced with machines, can be increased.

Accommodation establishments with the concept of space tourism can be opened anywhere in the world. Especially the rooms designed in the form of capsules, the zero-gravity environment, the space-like equipment from the minibars to water glasses in the lobby will meet the demands of people interested in space. Furthermore, the number of museums for children in space can be increased. In this way, it will be possible to somewhat reduce the obscurity about space from a young age.

It is recommended that researchers who will work in a similar direction in the future study the documentaries and other materials produced by NASA, benefit from numerical data, repeat their studies in the light of updated data, and support the research with the opinions of other stakeholders. Besides, the use of various analysis methods for future research and comparisons between studies to reveal similarities and differences are among the things that can be done. In addition, it is recommended to organize congresses and scientific events on space tourism to introduce innovative and creative ideas and present proposals for the sector.

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