

DEPICTION OF TRANSPORTATION IN ANIME MOVIES DR. STONES

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ABSTRACT

Dr. Stone is a sci-fi, adventure, and survival anime adapted from a manga by Riichiro Inagaki and Boichi. The anime is set in a post-apocalyptic world where all of humanity has been petrified by a mysterious phenomenon for over 3,700 years. The story centers on Senku Ishigami, a teenage genius who is determined to rebuild civilization with science. One important aspect of his development is transportation, which supports mobility and exploration. This research analyzes the types, functions, and comparison of transportation in *Dr. Stone* with the real world using a descriptive method based on scene observations in the anime. The results show a gradual depiction, from walking, steam cars, to ships. In addition to providing scientific education, this anime displays technological innovation realistically in the reconstruction of civilization.

Keywords: Transportation, Depiction, Civilization, Innovation, science.

INTRODUCTION

Animation is often used as a medium that is considered capable of assisting applications in conveying messages or information to a wide audience in the hope that these messages can be conveyed more effectively and efficiently (Hastuti et al, 2022). Similarly, visual communication design conveys a certain set of information through objects that are conveyed in a form that can be seen visually (Liu, 2022). Anime is a term that refers to Japanese cartoons or animations that are usually based on comics. Comics are an art form that tells stories through visual media, where ideas are expressed in images combined with text to display dialog, narration, sound effects, and other information (Nurlatifah & Kasmana, 2020). The development of social media is getting bigger, making people choose various entertainment media. One of them is media from Japanese cartoons called anime (Ramadhan & Ekawardhani, 2022).

Anime has become part of Japanese culture that is recognized by the world, for Japanese people culture is one aspect that will strengthen character and support the progress of their country (Ekawardhani & Yanti, 2012). Visual media such as anime is a new generation of media that is more popular and generally accepted by the public (Wan & Ren, 2021). Of the many Japanese anime that have been released, they have various uniqueness in terms of characters, themes or stories including the anime entitled Dr. Stone.

Quoting from the *Dr.Stone Wiki | Fandom website*, Anime *Dr. Stone* is a science fiction work that combines elements of adventure and science education in its storyline. Based on the manga by Riichiro Inagaki with illustrations by Boichi, the anime is set in a post-apocalyptic world where humanity is suddenly petrified for more than 3,700 years due to a mysterious phenomenon. After thousands of years have passed, a teenage genius named Senku Ishigami manages to free himself from the petrification and embarks on an ambitious mission to rebuild human civilization using the principles of science.



Figure 1. Anime *Dr. Stone*

Source: Crunchyroll

Referring to figure.1, the *Dr.Stone* anime poster shows several characters involved in the goal of reviving various technologies that once existed before the destruction of civilization, Senku and his group must find ways to recreate various innovations from scratch. One aspect that is the focus of civilization development in *Dr. Stone* is transportation. Previously, productive activities were inseparable from the availability of a comfortable environment as a means of supporting the process of interaction between individuals in life (Sari, 2017) . The existence of transportation is a major component in the system of life and life, government system, and social system (Putra & Adeswastoto, 2018). Movies not only have a dominant entertainment function, but also often display elements of having an educational (Biasini, 2018) Therefore, this anime displays the evolution of transportation technology from the simplest form to a more complex version, in accordance with the development of science that Senku and his team managed to recover.



Figure 2. Transportation

Source: Cove Blog

Referring to fig. 2 about the density of transportation, as the storyline develops, various means of transportation are introduced in the *Dr. Stone* anime, ranging from simple rafts for crossing rivers, sailing ships that move with wind power, to land vehicles such as cars driven by engines. Every transportation developed in this anime is based on scientific principles that can be found in the real world, although some of them have been simplified for the sake of the story.

In the narrative of *Dr. Stone*, the development of transportation also plays a significant role in the development of the storyline. One of the important aspects in the development of civilization is the depiction of transportation, which plays a crucial role in mobility, exploration, and the achievement of technological progress. This study aims to analyze the types, functions, and depictions of real-world transportation that appear in the *Dr. Stone* anime. With the world returning to a primitive era due to the destruction of modern civilization, the need for transportation becomes crucial to accelerate the process of technological rebuilding and territorial expansion. Senku and his group must find a way to recreate an efficient means of transportation using the limited natural resources and science available at the time.

LITERATURE REVIEW

Previous research has discussed various aspects that can be researched in the *Dr. Stone* anime such as in Nu'man et al (2023) Research shows that the film *Dr. Stone: Ryusui* contains the value of cooperation, such as responsibility, helping each other, respecting opinions, and contributing. This value can strengthen the character of mutual cooperation and integrity of children. Teachers are expected to utilize interesting learning media to instill attitudes and increase learning motivation.

In Harianto et al's (2024) research, language plays a role in building social relationships and expressing culture. *Dr. Stone*'s analysis of the first season with Masuoka and Takubo's theory shows that men tend to use *aa* (ああ) for agreement because it is masculine, while women use *un* (うん) more often. It is recommended that women avoid *aa* (ああ) so as not to appear "rude" in conversation. Referring to this research, language has an important value in building social relationships and expressing culture.

Then in Nudin & Deni's (2024) research, the *Dr. Stone* anime displays the role of architecture in rebuilding post-disaster civilization, emphasizing adaptation, innovation, and collaboration. However, the depiction of architecture in this anime needs to be critically examined, especially in technical, realism, and ethical aspects. While inspiring and entertaining, the complexity of the real world is much more complicated than what is shown in anime.

According to Pramudita & Andari (2022) in their research on Senku ideology, Senku Ishigami is described as a leader who prioritizes mutual cooperation, collectivity by limiting private ownership, and equality in leadership. Based on the type of ideology, Senku's character reflects socialism.

Visual elements in a design object are things that are considered including in the depiction of transportation in the *Dr. Stone* anime. Visual elements aim to help achieve rhetorical goals and their role in a visual communication design must be specific (Maulina, 2018). Transportation is one of the fundamental aspects in the development of human civilization. The impact of this transportation development is very broad and touches various aspects of people's lives. Increased accessibility and mobility open up new economic opportunities, accelerate regional growth, and facilitate the distribution of goods and services (Trihanah et al, 2024).

The history of transportation records that early humans used simple boats and animals as mobility aids before progressing to more complex transportation technologies. *The Dr. Stone* anime gradually reconstructs this development of transportation, following scientific principles in recreating various means of transportation that once existed in human history.

The depiction of transportation equipment in the *Dr. Stone* anime is adapted to the original in the real world which is a tool that helps people everyday because transportation is one aspect of community activities that routinely carry out activities to complement their daily needs. Therefore, the need for transportation both sea and air and especially on land really provides solutions for people in carrying out their daily activities (Amir & Rahman, 2020).

In *Dr. Stone* Anime, the depiction of transportation becomes a form of progress in human civilization where transportation plays a role as a foundation in economic development, social progress, and industrial growth. The presence of a transportation system allows for specialization or division of labor based on expertise, which is tailored to the culture, customs, and characteristics of a nation (Amir & Rahman, 2020).

METHODOLOGY





This research uses descriptive research methods to analyze how transportation in *Dr. Stone* is depicted, as well as how this element contributes to the development of the story and characters in the anime. In addition, this research will also discuss how the presentation of transportation technology in *Dr. Stone* can be an inspiration for the audience, especially in understanding the importance of science in building and developing human civilization.





By understanding the depiction of transportation in *Dr. Stone*, we can see how science and fiction are harmoniously combined to create an experience that is not only entertaining, but also educational. Through this approach, the anime is able to present insights into how innovations in transportation can transform human lives and open up new opportunities for exploration and progress.





RESULTS AND DISCUSSION



1. Results

Dr. Stone anime adapted from a comic which in terms, comics can be said to be an art form that communicates stories using image media combined with text, dialog, narration, effects, sound, and other information (Mukti & Kasmana, 2024). Through comic media, it then becomes a form of animation based on the depiction of transportation in the real world. To attract the attention of the target audience, the visuals given will be adjusted to the tastes of the target audience (Ferrari & Ekawardhani, 2023) and the imagination of the illustrator is in accordance with the anime style to make it more interesting and the audience can be more interested in watching the *Dr. Stone* anime.

No.	Anime	The real world
1.		
	Anime Dr. Stone Episode 3, Minute 19.17/24.00	
	Rafting Boat Senku made a <i>rafting</i> boat out of logs that were joined together and pulled by his partner to cross the river. In the real world today, these boats are used in rafting activities as an extreme sport or recreation on fast-flowing rivers. In addition to sports, some rafting boats are also used in rescue operations in flooded areas or difficult-to-access river terrain	
2.		
	Anime Dr. Stone Episode 68, Minute 00.07/24.00	
	Hot Air Balloon	

	<p>Senku built hot air balloons to explore different regions and observe the situation from above. In the real world, hot air balloons are one of the oldest forms of air transportation still used today, both for entertainment and scientific purposes.</p>	
3.		
	<p>Anime Dr. Stone Episode 35, Minute 22.31/24.00</p>	
	<p>Sailing Ship</p> <p>Senku and his friends, who happened to be pirates, built a sailing ship or pinisi ship to make traveling between islands easier. In the real world, a sailing ship is a type of ship that moves by utilizing wind power captured by the sails as the main source of propulsion. This ship has been used since ancient times as a means of transportation, trade, and sea exploration.</p>	
4.		
	<p>Anime Dr. Stone Episode 32, Minute 07.22/24.00</p>	
	<p>Tank</p> <p>Senku and his colleagues built tanks in preparation for war with their enemies who threatened Senku's territory. In the real world, a tank is an armored fighting vehicle designed for ground combat with high durability, armament, and mobility. Tanks are used in military operations to attack, defend, and provide support to infantry troops.</p>	

5.		
	<p>Anime Dr. Stone Episode 40, Minute 15.08/24.00</p> <p>Motorboat</p> <p>Senku allows motorboats to navigate waterways more quickly even though fuel tends to run out easily. In the real world, a motorboat is a type of small boat that is powered by an engine, either mounted inside the hull (<i>inboard</i>) or outside (<i>outboard</i>). Motorboats are used for various purposes, such as transportation, recreation, water sports, and patrol.</p>	
6.		
	<p>Anime Dr. Stone Episode 45, Minute 13.17/24.00</p> <p>Mine Cart</p> <p>Senku made mine carts to explore the mining area and to retrieve mine products. In the real world, the function of a mining cart is not much different and mining carts are usually used in underground and open-pit mines.</p>	

7.		
	Anime Dr. Stone Episode 35, Minute 13.16/24.00	
	Freight Carrier Senku made this car to make it easier to carry goods to move from one area to another. In the real world, this car is like a pickup truck that is intended to transport large quantities of goods.	

2. Discussion

Anime is entertainment in the form of animation that can be made by hand or with computer applications originating from Japan (Mulyana & Pramansah, 2022). Anime as a phenomenon and industry is growing rapidly from an economic point of view, furthermore, watching anime has been recognized as part of literacy development by educators (Rios et al, 2022). The latest anime produced in Japan allows viewers spend time watching for 5 to 10 hours, this is due to the serial format which generally consists of about 10 episodes, each lasting about 30 minutes (Mori, 2022). The depiction of anime in the form of transportation in the anime Dr. Stone introduces the concept of transportation and science to the audience in an interesting and easy to understand manner. The purpose of the study is to analyze the types, functions, and depictions with real-world transportation tools that appear in the *Dr. Stone* anime. In the depiction in the film is made to be as simple as possible so that the audience can understand the functions of the various transportation tools in the Dr. Stone anime.

In researching the depiction of transportation in the Dr. Stone anime, there are several obstacles. One of them is limited reference sources, because information about transportation reconstruction in this anime is not always fully documented in scientific literature. In addition, simplifications in the story for narrative purposes can lead to differences in scientific interpretation and difficulty in determining the level of accuracy of the technology displayed. Limited technical data is also a challenge, as not all transportation mechanisms are described in detail, so comparing them to real technology requires a more in-depth analytical approach. As a work of fiction, Dr. Stone also contains elements of entertainment that can influence scientific representations, so a balance is needed in understanding the context between fiction and reality. In addition, research in this field is still relatively limited, so the lack of previous studies can be an obstacle in comparing research results because most previous studies discuss character portrayal.

This research has impacts and benefits. From an academic perspective, it can enrich the study of how popular media, especially anime, can be an educational tool in introducing scientific principles, including the development of transportation technology. In addition, this research can be a reference for further studies in the field of popular science, media-based education. Meanwhile, for practitioners, this research can provide insight into how

transportation concepts can be presented in an interesting way to increase interest in learning, especially among the younger generation. With this research, comparisons can be made with other research results that discuss other aspects of the Dr. Stone anime, thus providing a broader understanding of the effectiveness of anime as a science communication tool. In addition, this research can also be the basis for the development of innovative learning methods as a means of education that is more interactive and easy to understand.

CONCLUSION

By understanding how transportation tools are depicted in *Dr. Stone*, such as in the initial episode of the emergence of rafting boats made from a combination of logs adapted to that era where modern raw materials have not yet been found in contrast to today's rafting boats which are already made of rubber. The existence of hot air balloons as a form of transportation progress at that time which was run almost the same as modern hot air balloons that were pumped with air. Then there is the creation of a tank as a means of war made of a combination of stone and wood and for the manufacture of ammunition adapted to the manufacture of explosive devices in the real world but described simply so that it is easy to understand. Cars in the *Dr. Stone* anime run on steam engine technology that was previously made and became the forerunner of modern cars. The *Dr. Stone* Anime movie not only presents entertainment, but also has high educational value. The combination of fiction and science in this anime is able to provide insight into how innovation in transportation plays a role in building human civilization. Through a systematic and science-based approach, *Dr. Stone* provides an interesting picture of how humans can rebuild the world from scratch by relying on knowledge that has developed over thousands of years. The depiction of transportation in *Dr. Stone* has a strong scientific basis and follows the historical development of human technology. This approach provides educational value while enriching the story narrative, making this anime an example of science fiction that manages to effectively combine entertainment with science education.

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