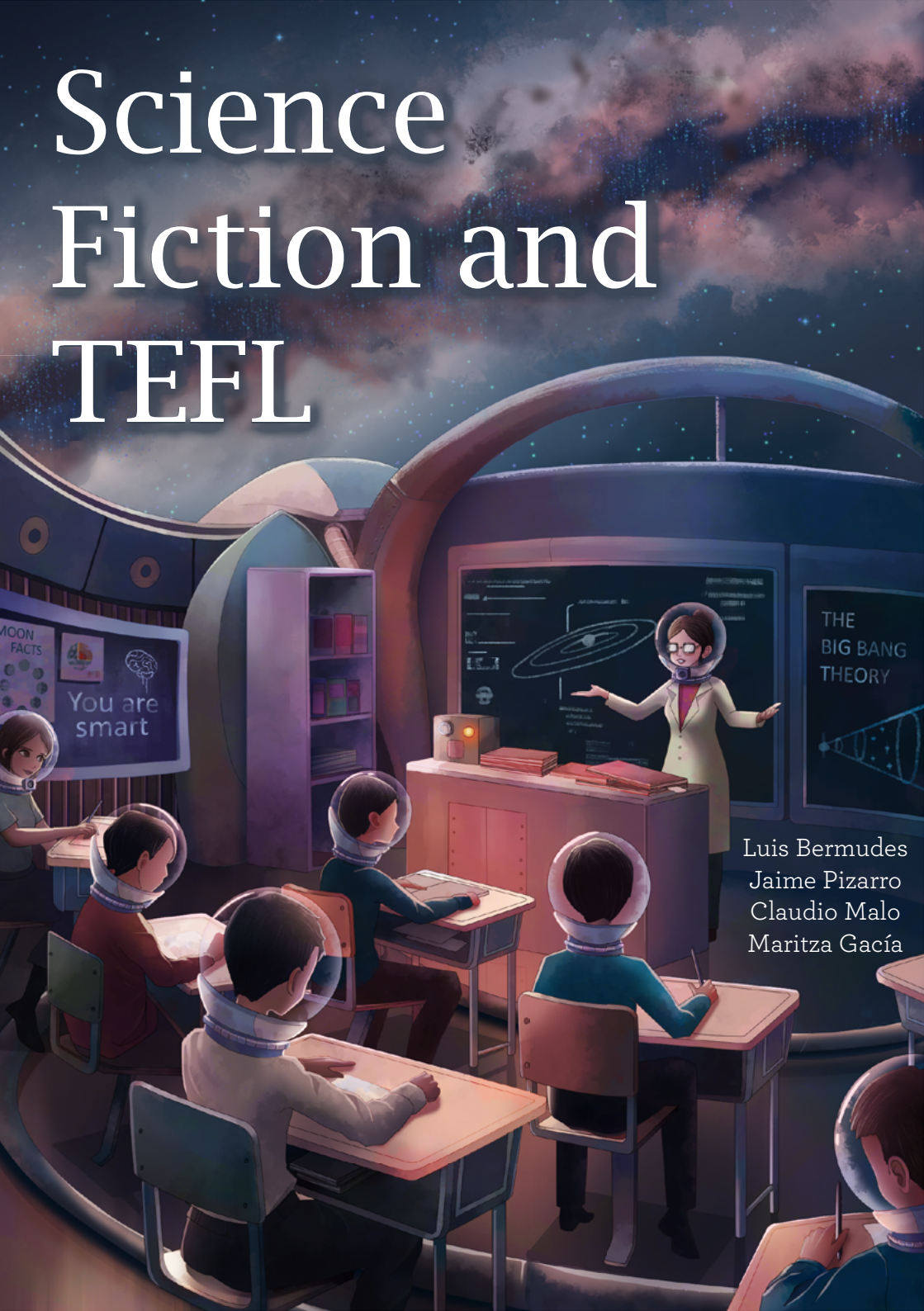
Science Fiction and TEFL



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Preface

The careful selection and adaptation of teaching materials in EFL are essential for delivering well-structured and meaningful lessons. As educators, the resources we choose shape the content and pace of our teaching and influence the overall learning experience. It is widely recognized that students need to be familiar with diverse forms of written literature in English to receive ample input and enhance their skills.

In this context, this book explores how science fiction can be used to enhance English acquisition. By offering insights into the unique qualities of science fiction, this book aims to demonstrate how it can be utilized to create dynamic and immersive educational experiences for students of English. The book begins by examining the nature of science fiction itself, delving into its defining characteristics and evolution over time. It then discusses the role of science fiction in language learning, highlighting its ability to engage students' imaginations and spark meaningful discussions about language, culture, and society. Works such as “War of the Worlds” by H.G. Wells, “Journey to the Center of the Earth” by Jules Verne, and “Foundation” by Isaac Asimov are analyzed with a focus on how they can be used to enhance language skills. The motivation behind this initiative is to inspire educators to rethink their approach to language teaching and to incorporate science fiction into their curriculum. This book is a valuable resource for teachers seeking to create engaging and effective learning opportunities for their students.

We thank all those who have supported us in making this book. Their encouragement and enthusiasm have been instrumental in bringing this project to life.

Introduction

Welcome to a journey into the fascinating intersection of Science Fiction and language learning. This book aims to provide insightful perspectives on how Science Fiction can be used to enhance the learning experience in English as a Foreign Language (EFL) classrooms. By exploring this innovative approach, we hope to inspire educators to incorporate Science Fiction into their teaching strategies, enriching the educational environment and engaging students in unique and thought-provoking ways.

The structure of this book is designed to guide readers through a comprehensive exploration of Science Fiction's potential in language education, divided into six distinct parts, each serving a specific purpose. First, we provide a detailed historical overview of Science Fiction, tracing its evolution from its early beginnings to its contemporary forms. Profiles of the most influential authors in the genre are presented, along with summaries of their seminal works. This historical context helps situate Science Fiction within the larger literary landscape and demonstrates its enduring impact and adaptability. Once that is done this book also focuses on the academic aspects, presenting the results of a comprehensive survey conducted among 63 pre-service and in-service English teachers. The survey includes a diverse range of age groups and social backgrounds, offering valuable insights into teachers' attitudes towards the use of Science Fiction in the EFL classroom.

By navigating through these parts, readers will develop a nuanced understanding of how Science Fiction can serve as a powerful engagement tool in L2 classes. We hope this book inspires you to explore the rich possibilities that Science Fiction offers and to consider its potential benefits for language learners.

1

Bringing Science into the EFL Classroom

TEFL, the acronym for Teaching English as a Foreign Language, is a field in constant fluctuation, always looking for ways to make the acquisition of English easier and more meaningful for students all over the world. As such, four aspects deserve attention in the appropriation of English and each of those aspects refers to one of the four abilities we need to become users of a language in good standing. Out of the four (Listening, Speaking, Reading, and Writing) it is Reading and Writing that usually connect better with classes where the language is taught using literature. Listening and Speaking can also be integrated, and they should, but they are not visited as often, or not in the same amount, as the others.

The problem is in decision-making. When language curriculum is being developed, designers tend to include classical texts for their Reading classes which are universally known, but not necessarily universally relatable. John McRae (1994) states there is a type of literature with a capital L which encompasses the classical texts we all know, and there is also literature with a small l, which refers to popular fiction like

fairy tales and even most song lyrics. The trend is then to use books from all English- speaking countries not only the UK or USA, or texts from a diverse range of countries and cultures that have been translated into English. In general, reading specific literature selections could be used to revitalize class activities or exercises.

In this vein, Science Fiction may become a fulcrum for ELT (English Language Teaching) courses since they bring ideological content and language corpus not commonly included in other types of literature. This literature is not overburdened with technical terms but rather highlights specific uses of some grammatical and lexical items and, what is more, may serve as a source of inspiration for students whose personalities are more in tune with the topics offered in science fiction stories.

Why to Teach Science Fiction to English Learners?

There are several instances in which science fiction can be used in education. Science fiction can be an effective tool for teaching reading and writing to English learners since the use of science fiction in the classroom can help engage students and make the learning process more interesting and interactive because of the distinctive nature and specific features of science fiction. It is that contact between the reader and the unique features of science fiction (futuristic settings, innovative plots, advanced scientific concepts), that special connection established therein, the one that brings advantages ideal for in-service teachers. We could safely say that there is more than just one connection between science fiction and TEFL, and thus we could mention the following:

Language development: Science fiction is an engaging way for EFL students to improve their language abilities. Reading science fiction can help students expand their vocabulary, learn new grammar, and enhance their reading comprehension. Science fiction often includes advanced vocabulary and complex concepts that can challenge students and help them expand their language abilities.

Cultural understanding: Science fiction often explores diverse cultural perspectives and allows learners to gain insights into the values and beliefs of different societies. By reading science fiction, EFL students can increase their cultural awareness and develop a more nuanced view of the world.

Critical analysis: Science fiction frequently presents thought-provoking questions and challenges readers to critically analyze complex issues. Engaging with science fiction can help EFL students develop their critical thinking abilities and learn to evaluate different ideas and arguments. Science fiction often requires students to think critically and make inferences, which can help to improve their reading comprehension skills. As it will be shown later, science fiction is not only futuristic science and, in fact, the writers of this genre also tend to use their stories to expose inherently their philosophical views as was the case of Isaac Asimov, Philip K. Dick, Ursula K. Le Guin, Octavia Butler, or Frank Herbert, all prolific science fiction writers known for exploring philosophical themes in their works. Asimov delved into the philosophy of science and consciousness, while Dick examined identity, reality, and existence. Le Guin explored feminist and anarchist themes, Butler investigated race, gender, and identity,

and Herbert's *Dune* series addressed environmental philosophy and ecological themes. These authors used science fiction to examine complex issues and challenge prevailing power structures.

Imagination: Science fiction is a genre that fosters creativity and imagination. Reading science fiction can help EFL students expand their creative thinking and develop the ability to think freely. Science fiction often deals with speculative and futuristic concepts, which can inspire students to think outside of the box and explore innovative ideas and possibilities, this is because science fiction stories feature strong and diverse characters, which can help to promote cultural understanding and empathy among students. One such case is Lieutenant Uhura from *Star Trek (the original series)*, who was one of the first black women to be portrayed as a competent and respected officer on a TV show, or Ahsoka Tano from *Star Wars*, who is a complex and powerful female character with a unique backstory. There is also Mark Watney from *The Martian,* who is a determined and resourceful astronaut who uses his knowledge and ingenuity to survive on a hostile planet, or Katniss Everdeen from *The Hunger Games*, who is a fierce and independent young woman who stands up against oppression and fights for what she believes in.

Engagement: Science fiction is an exciting and engaging genre that can motivate EFL students to improve their language skills. By providing interesting content, science fiction can make language learning more enjoyable and rewarding. Examples of engaging stories that can be included in the syllabus of an EFL class we could mention *The Hitchhiker's Guide to the Galaxy*

by Douglas Adams which is a humorous science fiction story following the adventures of Arthur Dent and his alien friend Ford Prefect; also, *Ender's Game* by Orson Scott Card, a classic science fiction novel about a young boy named Ender Wiggin who attends Battle School; and *The Expanse* series by James

S.A. Corey that takes place in a future where humanity has colonized much of the solar system and follows a group of characters as they try to prevent an all-out war.

Science Fiction allows students to explore and experiment with different writing styles and techniques, such as descriptive and imaginative writing. Using it in the classroom can be an effective tool for teaching reading and writing to English learners, a wonderful way to make the learning process more interactive and fun.

What do the experts say?

Several experts in the field of Language Acquisition have already dedicated a few words to this matter. Though they all feel Science Fiction can be an effective tool for teaching English as a foreign language, it is not the only way, and it is not universally applicable. It is necessary to remember that the use of science fiction in an EFL context, like in any other context, should be carefully considered, and adapted to the specific needs and characteristics of the students if those students have not been exposed to the concept of science fiction in the past in which case introductory sessions would be necessary.

One of those in pro of using science fiction as part of EFL Reading sessions is David R. Dowling (1986), author of *Science Fiction in the Classroom: An Annotated Bibliography* who suggests that science fiction can be an effective tool for teaching English as a foreign language because it helps students to engage with the material and to develop critical thinking skills. Dr. James Sosnoski (unspecified date), a professor of TESOL at the University of New Hampshire, argues that science fiction can be a valuable tool for teaching English as a foreign language because it exposes students to current ideas and concepts, and helps them to think creatively and critically. Dr. Alan Purves (unspecified date), believes that science fiction allows students to explore new worlds and cultures, which can help them develop a better understanding of the target language and culture while Dr. Keith Allan (unspecified date), argues that science fiction exposes students to authentic language and provides them with an opportunity to practice their reading and writing skills in a meaningful context. Some companies seem to have embraced science fiction for educational purposes like Maggioli, an Italian publishing company that in 2015 published a book titled *Using Science Fiction in the English Language Classroom* by Helene J. Uchida, which explores how science fiction can be used to teach English language skills and includes practical activities and even science fiction-based lesson plans. However, even Uchida may not have considered all the implications of using science fiction in education, but others have delved into those other areas like Harmer (2003) who, in his book *More Than a Game: The Computer Game as Fictional Form,* discusses the potential of science fiction computer games to engage and motivate language learners.

It is important to keep in mind that science fiction may not be suitable for all learners. Firstly, science fiction often contains complex language, including scientific and technical terms that may be challenging for some EFL students to comprehend.

Secondly, science fiction may address themes and subjects that some students may find difficult or unsettling, such as advanced technology, dystopian futures, or extraterrestrial cultures. Thirdly, some students may simply not be interested in science fiction, making it hard to engage them with the material. Students from cultures where science fiction is not widely popular or well-known may have difficulty relating to the genre, reducing its effectiveness for language learning. Therefore, it is crucial for teachers to carefully consider their students' needs and interests when deciding whether to include science fiction in EFL lessons, and because of that the use of science fiction in an EFL setting should be carefully considered and tailored to the specific needs and characteristics of the students.

Another aspect to consider is that of experts who have addressed the potential limitations or disadvantages of using science fiction in language classes. For instance, Stephen Krashen (1985), has argued that reading for pleasure is a crucial component of language learning, but he has not specifically addressed the use of science fiction in language classes. Similarly, Diane Larsen-Freeman (1986) has discussed the importance of using authentic materials in language teaching but has not specifically addressed the use of science fiction. It is important to note that these experts' opinions may differ

from those of other language experts and that the decision to use science fiction in language classes depends on personal and pedagogical preferences.

In summary, many language acquisition experts agree that science fiction can be an effective tool for teaching English as a foreign language. Using science fiction as a teaching tool can help students engage with the material, develop critical thinking skills, and explore new worlds and cultures in a meaningful way.


2

An Introduction to Science Fiction

Science fiction is a genre of literature that explores the possibilities of a better future through the lens of science and technology. It is often characterized by its focus on futuristic worlds, advanced technology, and imaginative concepts such as time travel, space exploration, and artificial intelligence. The genre has a rich history and has produced some of the most influential and widely read works in literature, and it is an icon of popular culture, influencing film, television, and other forms of media. The genre has a wide appeal, as it allows readers and viewers to explore new worlds and ideas, and to imagine what the future might hold. Many of the concepts and technologies that were first introduced in science fiction have since become a reality, underscoring the genre's ability to inspire and influence. Aside from its entertainment value, it also has a significant role in education, as it can promote reading and writing skills, spark curiosity and imagination in students, or encourage the exploration of important social, political, and scientific issues, making it a valuable resource for teachers and students alike.

Overall, Science Fiction is a powerful and versatile genre that has the power to inspire and entertain readers, while also promoting literacy and critical thinking. It is a valuable tool for education and a source of inspiration for creators and inventors.

Definitions of Science Fiction

Science fiction, often abbreviated as SF or sci-fi, is a genre of speculative fiction that typically deals with imaginative and futuristic concepts such as advanced science and technology, space exploration, time travel, parallel universes, and extraterrestrial life. It often explores the potential consequences of scientific, social, and technological innovations.

Isaac Asimov, a notable science fiction writer, defined the genre as "anything published as science fiction." He emphasized that science fiction is not just another area of literature but also a reflection of the relationship between human beings and the changes brought about by science and technology.

Other writers, such as Ray Bradbury, have also offered their definitions of science fiction. Bradbury described it as "the art of the possible" and distinguished it from fantasy, which he described as "the art of the impossible." He believed that science fiction stories are only momentarily imaginary but have the potential to become real in the future.

In contrast, Jules Verne, another renowned science fiction writer, introduced the concept of anticipatory stories in which he described technology that did not exist at the time but had the potential to become real in the future. An example of this is his novel Twenty Thousand Leagues Under the Seas, in which he introduced the figure of the Nautilus, a submarine that was not yet in existence but had the potential to become a reality, and it did.

Frederik Pohl, another science fiction author, defined the genre as "the very literature of change." He highlighted the importance of change and the need to be prepared for whatever the future may bring.

We could say that science fiction is a genre that explores the possibilities of advanced science and technology, and how they may impact the future of humanity. It reflects the relationship between human beings and the changes brought about by science and technology. It has the potential to inspire and entertain readers, while also promoting literacy and critical thinking. It is a valuable tool for education and a source of inspiration for creators and inventors.

Elements of Science Fiction

Science fiction is a genre of speculative fiction that typically deals with imaginative and futuristic concepts such as advanced science and technology, space exploration, time travel, parallel universes, and extraterrestrial life. Several key elements are commonly found in science fiction stories. These include:

Scientific or technological advancements: Science fiction often features advanced technology, such as robots, cyborgs, and spaceships, as well as scientific concepts such as genetic engineering, artificial intelligence, and time travel. These elements are used to explore the potential consequences and implications of these advancements on society and humanity.

Futuristic or speculative settings: Science fiction stories often take place in the future, or a speculative or alternate reality. These settings allow the author to explore different social, political, and technological possibilities and to comment on current issues and concerns.

Exploration of social and philosophical issues: Science fiction is often used as a tool to explore and comment on various social and philosophical issues such as war, poverty, inequality, and the nature of humanity. It can also be used to question or challenge the status quo, and to inspire its audience to think about critical issues.

Extraterrestrial life and space exploration: science fiction is often set in outer space and features extraterrestrial life forms, which can be used to explore themes of alien invasion, first contact, and the search for extraterrestrial intelligence.

The use of advanced technologies, such as virtual reality and artificial intelligence, can also be found in science fiction stories to explore the relationship between humans and technology.

Several science fiction stories are also characterized by their use of advanced scientific concepts and ideas, such as physics, biology, and mathematics, which are often used to explore the possibilities of the universe and humanity's place within it. Besides the ones mentioned in this list, there are also many variations and sub-genres within the broader category of science fiction.

Relevance of Science Fiction

Science fiction is a genre of literature that has been acknowledged as a separate literary genre since the early twentieth century. It explores the same human themes as other standard narratives but with the added element of future technology and the possibility of a different setting, such as a distant galaxy or a future version of our planet. This setting serves as a vehicle to justify a story that could not be told in any other environment or under different circumstances.

Science fiction has had a significant impact on multiple fields, including literature, communication, home entertainment, space travel, and transportation. Many scientists and inventors have been influenced by the works of science fiction writers, such as Edwin Hubble and Carl Sagan, who both credited science fiction writers for inspiring their interest in science.

The genre has also had a significant impact on the field of communication, with the development of mobile phones, which are often compared to the "communicators" used in the science fiction series Star Trek, being seen as an inspiration for

the development of this technology.

In recent years, science fiction has become a large part of popular culture, with many television series, comic books, and movies taking inspiration from science fiction stories and making them more accessible to the masses. Many of these stories and characters, such as Robocop, the Terminator, Alien, and Predator, have become iconic and recognizable to a wide audience.

It could be said science fiction is a genre of literature that explores the possibilities of advanced science and technology and how they may impact the future of humanity. It has transcended the world of literature and has had a significant impact on multiple fields and popular culture. It continues to inspire and entertain readers and viewers, while also promoting literacy and critical thinking.

Origin of the Term Science Fiction

The origins of the term "Science Fiction" are unclear, as it is difficult to find stories before the modern era that used science as a framework for the events depicted in them. Before the 19th century, science was not widely understood or accessible to most people, and it was a field reserved for a select group. This made it difficult for stories to incorporate scientific concepts rigorously, and when they did, it was usually done tangentially.

It is believed that the term "science fiction" was coined by Hugo Gernsback, the editor and founder of the first science

fiction magazine, Amazing Stories. Gernsback originally intended to use the term "Scientifiction," but it eventually evolved into the form we know today. Gernsback, a European man who moved to the United States as a young adult, published works by classics such as Verne, H.G. Wells, and Edgar Allan Poe, but also provided a platform for a new generation of writers to explore the genre.

Without the appearance of Amazing Stories, the development of science fiction would have been hindered or occurred later, and many of these new writers would not have had the opportunity to have their stories known to the audience. This illustrates the significance of Hugo Gernsback's role and his importance to the genre. In recognition of is contributions, an annual literary award was established and named after him: the Hugo Award, one of the most prestigious in the field and has been awarded since 1953.

Essential Terms in Science Fiction

The following list contains most of the terms commonly used in science fiction works, but not all of them. More exhaustive research should also include the possible interpretations that some authors make of some of these terms in their stories.

Alien: A life form from another planet or universe.

Android: A humanoid robot designed to look and function like a human.

Artificial intelligence (AI): The ability of a machine or

computer program to perform tasks that typically require human intelligence, such as visual perception, speech recognition, decision-making, and language translation.

Augmented reality (AR): An interactive experience of a real-world environment where the objects that reside in the real world are "augmented" by computer- generated perceptual information, sometimes across multiple sensory modalities.

Cloning: The process of creating an exact genetic copy of an organism or cell.

Cyborg: A being that combines biological and technological components.

Dystopian: Describing a future world characterized by poverty, squalor, disease, and unrestrained crime.

Extraterrestrial: Originating or occurring outside the planet Earth.

Force field: An invisible barrier that can protect a person or object from physical harm.

Futuristic technology: Technology that is advanced beyond what is currently in use and typically set in a future timeline.

Hologram: A three-dimensional image created with the help of laser technology.

Hyperdrive: A faster-than-light propulsion system used to travel between stars in a science fiction setting.

Intergalactic: Relating to or occurring between different galaxies.

Light speed: The speed of light in a vacuum is approximately 299,792,458 meters per second.

Multiverse: The theoretical concept of the existence of an infinite number of parallel universes, each with its distinct physical laws and characteristics.

Nanotechnology: The branch of technology that deals with particles on a scale of a few nanometers, including the manipulation and manufacture of individual atoms and molecules.

Post-apocalyptic: Describing a future world that has been devastated by some catastrophic event, such as a war, natural disaster, or pandemic.

Replicator: A machine that can produce physical objects on demand, often used to provide food and supplies in science fiction.

Robot: A machine capable of conducting a complex series of actions automatically, especially by being programmed by a computer.

Space elevator: A hypothetical structure extending from a planet's surface into space, used to transport people and cargo.

Space travel: Travel through space, typically beyond Earth's atmosphere.

Spacecraft: A vehicle designed to travel in space, often used for exploration or transportation.

Telekinesis: The hypothetical ability to move objects using only the power of one's mind.

Teleportation: The hypothetical transfer of matter or energy from one place to another without the use of physical transport.

Time travel: The hypothetical capability to move between different points in time.

Utopia: An imagined perfect place or state of things, typically one that is considered impossible or highly unlikely to achieve.

Virtual reality (VR): A computer-generated simulation of a three-dimensional image or environment that can be interacted with in a real or physical way by a person using special electronic equipment, such as a helmet with a screen inside or gloves fitted with sensors.

Warp drive: A hypothetical propulsion system that allows a spacecraft to travel faster than the speed of light.

Wormhole: A hypothetical passage through space-time that could allow for faster-than-light travel.

To understand the whole extent of science fiction novels and tales, it is essential to understand the terms listed above. Also, most of them still exist in the realm of fantasy but may eventually become real in the near or the far future.

Understanding the Nature of Science Fiction

Science fiction is a genre that is often misunderstood by those who do not take the time to explore its intricacies. While science is used as the framework for these stories, it is not the central topic. Anyone can enjoy science fiction stories, regardless of their prior interest or knowledge of science. The language used in these stories is usually simple, making them accessible to a wide audience. This has also helped them to easily migrate to other formats, such as motion pictures and television series.

Science fiction stories are usually set in the future and often use elements that already exist in our everyday experience but are presented in a different or altered state or replaced by more advanced technology. This is a default characteristic of the genre, as it is based on the idea that science will continue to progress and have a significant impact on the lives of everyone. The implications and complications that arise from the manipulation of this advanced science for both good and evil are often at the heart of these stories.

Science fiction is also known for its predictive nature. Authors in the field have been deemed "prophets" of our time because their visions have often become reality. Jules Verne, for example, introduced the concept of a submarine

in his novel Twenty Thousand Leagues Under the Sea, long before submarines existed as anything more than prototypes. Similarly, H.G. Wells in his novel War of the Worlds described an alien invasion from Mars, decades before the topic became a staple of science fiction,

Science fiction is not commonly considered "serious literature" and is often mistaken for fantasy. While there is certainly some overlap between the two genres, science fiction and fantasy are fundamentally different. Science fiction is based on knowledge that can be assessed and used in practical ways, while fantasy is make- believe. However, there is also a significant amount of fantasy involved in science fiction, as many of the artifacts, vehicles, or medicine described in these stories are, at the time of publication, only concepts that may or may not become reality. This is one of the reasons why science fiction is not always taken seriously as literature. Additionally, science fiction writers have not been awarded the Nobel Prize in literature, which further contributes to the perception of the genre as less "serious" than other forms of literature.

Another reason for this perception is the use of simpler language in science fiction. Potential readers sometimes approach Science Fiction works with apprehension, fearing that they will not understand the story due to the use of technical terminology; however, most science fiction writers are not scientists themselves and only have a natural affinity for science. They use simple, straightforward language to make their stories more accessible to a wider audience. Space travel, alien invasions, advanced technology, and other elements are common in science fiction, but it is not always as simple as it

may seem. In the past, science fiction did not require a scientific background or inclination, but now, science fiction has evolved.

We may say that Science Fiction is a genre that extends beyond mere entertainment, serving as a platform for exploring boundless possibilities, envisioning uncharted worlds, and reimagining novel ways of existence. This dynamic genre remains in a perpetual state of evolution, deftly adapting to contemporary scientific discoveries and advancements. Despite its occasional characterization as less "serious" literature, Science Fiction wields a profound impact on popular culture and stands as an influential force in inspiring and shaping the modern world. More importantly, it possesses the remarkable ability to both educate and inspire readers, prodding them to contemplate the ramifications of future scenarios and the intricate interplay of science and technology in our lives.

For all of this, Science Fiction merits a profound level of consideration and appreciation for its distinctive contributions to both literature and society. Its influence transcends the mere construction of extraordinary narratives, extending its reach into diverse realms, including entertainment and education, casting a lasting imprint on our collective imagination, and understanding of the world.


3

Science Fiction as such did not exist before the 20th Century, nevertheless, there are written accounts of imaginative and speculative stories that may be deemed as the precursors to the science fiction genre. These early tales often explored themes of technology, space exploration, and the impact of scientific advancements on society, laying the foundation for the development of science fiction in the 20th century.

The First Robots

Undoubtedly, the appearance of Science Fiction is intimately related to the appearance of modern technology to such an extent that one cannot be conceived without the other, however, there are examples of what we could call

"early Science Fiction" in ancient lore, moments when fantasy casually abandon the realm of magic to visit the more rational field of science. To find evidence of this claim, it is necessary to revisit some of the rich stories told in the ancient Greek myths, in particular, those connected to the god of metal works, the one called Hephaestus.

According to myth, Hephaestus was a blacksmith and craftsman who made weapons and military equipment for other gods and heroes, and among many other things, he made automatons. These were statues made of metal that would resemble human beings, animals, or monsters and were animate. They assisted the blacksmith god in his workshop, and it was said they could feel and think as though they were alive. He also built other automatons and the most famous was Talos, a bronze giant who is described as an antagonist in the epic tale *Jason and the Argonauts,* written by Apollonius Rhodius. After landing on the island of Crete, the hero Jason ordered his men to take only food and water but not to touch the treasures kept on the island. Unfortunately, Hercules, who was also part of this crew, disobeyed Jason's warning and stole a pin. This action angered Talos who oversaw the treasure. When in pursuit of those who would dare to steal the treasure, Talos would heat himself using fire and kill his victims by burning them with his touch. Advised by the gods, Jason removed a peg on Talos' right foot, thus releasing gallons of a divine liquid called ichor which was what animated Talos. As he fell, the giant broke into pieces and his threat was ended.

The word *automaton* is defined as: "a machine or control mechanism designed to follow automatically a predetermined

sequence of operations or respond to encoded instructions." (Merriam-Webster Online Dictionary, 2022), and is used here because the term *robot* and the notion of what robots were was inexistent at the time, though it is remarkable that the notion of mechanical objects that could perform certain tasks already existed. We could say that Talos and Hephaestus' assistants are most likely to be the precursors of the robots and androids of these days and their stories, though brief are also some of the first precedents of modern science fiction tales, but those are the only ones.

In addition to the examples found in ancient Greek myths, there are other examples of early science fiction in other cultures and periods. For instance, in the medieval Arabic world, tales such as "The Book of One Thousand and One Nights" (also known as "Arabian Nights") featured stories of flying carpets, talking animals, and other fantastical elements that could be considered early forms of science fiction. Similarly, in the 16th century, the book "The City of the Sun" by Tommaso Campanella featured a utopia where advanced technology and scientific knowledge were used to create a perfect society. These examples demonstrate that the idea of using science and technology in storytelling is not a new concept but has been present in various cultures throughout history.

A Flying Horse with Operating Buttons

In one of the stories told by Shahrazad in the Arabian Nights, a Persian sage brings an ebony horse that can fly to

King Sabut who in exchange gives one of his daughters to the sage man. King Sabut's daughter is reluctant to marry the old and ugly man so her brother, Kamar al-Akmar, protests at their father, and takes over the horse, but when he travels on the horse he does not know how to descend. When he eventually does, he comes to an unknown palace where he meets a beautiful Princess called Shams al-Nahar. In this tale, the horse is not a magical creature driven by demonic influences: in fact, it is not a living being, but one made from wood that gains or loses altitude by turning two screws in the same fashion as buttons or levers operate. How the author or authors of this tale produced such an interesting idea remains unknown, but the fact that it is there serves to prove that Science Fiction has clear antecedents, and this story is one of them.

The First Story of Reanimation

Moving forward in time, more specifically to XIX century England, we find yet another story that has never been considered Science Fiction, and yet it could have. The story is about *The Frankenstein Creature* (also called *The Modern Prometheus*). The monster is the creation of Doctor Victor Frankenstein, a scientist obsessed with the mystery of life who assembles a humanoid being from old body parts that then he "animates" by using chemicals, and some sort of animating spark. The resulting creature is eight feet tall, unnaturally strong, but with an innocent mind. Horrified by his creation, the doctor abandons the being that in turn though confused, tries to become part of society, only to be rejected everywhere and every time. Eventually, the monster realizes he is despised because of his aspect, and that changes him forever. Seeking

revenge, he kills Victor's younger brother, and later murders Victor's best friend and then his new wife.

Emerging from the Romantic era, Mary Shelley's Frankenstein (1818) stands as a stark antithesis to the prevailing literary sensibilities of its time. While Romanticism championed idealism, emotion, and the beauty of nature, Frankenstein delves into the darker recesses of the human psyche, exploring themes of scientific overreach, societal prejudice, and the monstrous potential within us all. In contrast to the idealized protagonists and picturesque landscapes of Romantic literature, Frankenstein presents a flawed and ambitious creator whose hubris leads to the creation of a grotesque and terrifying being. The novel's exploration of the consequences of scientific tampering and the danger of unchecked ambition resonates deeply with modern concerns about the ethical implications of technological advancement. Furthermore, Frankenstein's depiction of the monster as a marginalized and misunderstood figure challenges prevailing notions of beauty and belonging. The monster's physical deformities render him an outcast, and his attempts to connect with humanity are met with rejection and fear. This exploration of prejudice and discrimination speaks to the enduring power of the novel's social commentary.

Frankenstein's rejection of romantic ideals in favor of a more nuanced and unsettling examination of the human condition marks it as a groundbreaking work of Gothic literature. Its exploration of dark and taboo subjects, its unflinching portrayal of the monstrous, and its questioning of the boundaries between creator and creation have ensured its place as a classic of the genre. Truly, very few would daresay that *Frankenstein*

is nothing but a classic of horror literature, and yet it contains several elements that are often used in science fiction: we have a mad scientist in Doctor Frankenstein, an experiment gone wrong which is the creation of the creature itself and the plot is the consequences everyone involved must deal with because of that misguided action. Now, if you read the story, Shelley never describes the process used by Doctor Frankenstein which is understandable since she was not a scientist and lived in a time when medicine and biology were still incipient fields.

It is a curious thing that the Science Fiction and Horror genres are so often intertwined, and perhaps because of the uncertainty we tend to experience when we encounter something we have no previous experience with. Still, that connection feels natural and never forced and *Frankenstein* is not the only example of that around 1886, another British writer, Robert Louise Stevenson published his most prominent work:

The Strange Case of Dr. Jekyll and Mr. Hyde.

Doctor Jekyll's Innovative Potion

What kind of work is *The Strange Case of Dr. Jekyll and Mr. Hyde?* It is possible to say it is not a novel but a novella, as this is a short story, told in a series of letters that the characters exchange, and is by reading them that the story progresses in any manner. The novella tells the story of a lawyer named Utterson who suspects his friend, Dr. Jekyll, has befriended a malevolent individual. He is told that the man, Mr. Hyde had recently harmed a small girl, and performed other nefarious deeds. To make Mr. Utterson more suspicious, he had also been

asked by Jekyll to write a will leaving his possessions to Hyde.

In the end, Utterson is called to Jekyll's home to discover what has become of his friend as he has locked himself in his laboratory. He finds an agonizing Mr. Hyde and a letter to himself from Jekyll describing his bold experiment to separate the good and evil side of man by drinking a potion that Jekyll himself had invented. The potion allowed him to turn into Hyde, but he soon found out that the Hyde persona was slowly taking over their body; therefore, he had chosen to take his own life to prevent such a thing from ever happening.

More precisely, this is a gothic tale that again touches the world of science in the only possible manner at the time: superficially. Had it been written nowadays, the classification would have been the same, but Stevenson, and Shelley as well, would have chosen to offer more information about the kind of potion used to change Jekyll into Hyde. In other words, they did not because they could not.

Rockets that Reach the Moon

Savinien Cyrano de Bergerac, or just Cyrano de Bergerac; is famous for being the protagonist of Edmond Rostand's play *Cyrano de Bergerac* published in 1897. In this play, Cyrano is portrayed as a gentle and brilliant but shy and unattractive lover who happens to have a remarkably large nose. But he existed (and he had a big nose).

Cyrano de Bergerac (1619-1655) was a French satirist and dramatist who incorporated political satire and science

fantasy in his works. In his younger days, he served as a military man but later abandoned his career to pursue the path of a philosopher and writer. During this phase of his life, he wrote a fascinating piece called *A Voyage to the Moon: with some account of the Solar World*. This piece is significant because it describes various methods to reach the moon, some hilarious, while others are more realistic. One of the most feasible methods involves a machine capable of carrying only one passenger and equipped with a series of rockets or fireworks that explode at various times, propelling the contraption toward the moon.

One can only marvel at the predictive characteristics of the "machine" imagined by Bergerac for it is a system used by space shuttles these days. When spacecraft is sent to outer space, it needs some force to be able to overcome the natural gravitational pull of Earth and rockets are usually the ones in charge to do that precisely. Also, just as Bergerac imagined, it was required that such force be distributed and operated in different sets and times. Curiously, of the several ways imagined by Bergerac, this was not the one that managed to successfully take the protagonist to our satellite.

A Peculiar Way to Get Away with Murder

The Picture of Dorian Gray is the only novel ever written by the most prominent Irish writer of his time, Oscar Wilde. Published in 1891, the story is about a handsome man named Dorian Gray whose portrait is painted by Basil Hallward, a friend of Dorian's. Through Basil, Dorian meets a hedonistic man called Lord Henry Wotton and from him, he

learns that there is nothing more important than beauty and sensual self- compliance in life. Afraid that his beauty will fade, Dorian "sells his soul" so the picture and not him will age. Amazingly, the wish is granted, and Dorian becomes a libertine and amoral individual who stays staying young and attractive while, his portrait (hidden somewhere in his house) ages and decays as a reflection of his sins.

This novel has been deemed by some literary experts as a "philosophical" work, an approach to the vein views and practices of a society that had become decadent represented by Dorian Gray. None of that would be important for this work if not for one detail: Basil Hallward, being the author of the portrait becomes an uncomfortable element in Gray's life when he becomes suspicious of his friend's eternal youth. Gray shows Basil the picture, now horribly changed, and then kills him. How does he get away with murder? Again, Wilde was no scientist and yet uses for his story an element that only science could provide. Gray calls an old friend, a chemist, and obliges him to dispose of Basil's body by using his knowledge of Chemistry which he does by eliminating all traces of the body and in the process Dorian Gray's crime.

Wilde was quite like Lord Wotton, only not as decadent, and because of the world he lived in, also a man of great culture with access to all kinds of knowledge that was not common in his time. Information was not as widespread as it is today, and only certain people could have access to it. His biographers say that when he was young, Wilde learned French and German and could attend university, first at Trinity College Dublin, then at Oxford. After university, Wilde moved to London where he

became famous for his playwrights and poems that allowed him to be part of the cultural and social circles in the capital of one of the most important empires of that century.

The First Time Fiction Used Science

The theme of space travel was dealt with again, in a satirical manner though, by Edgar Allan Poe (1809-1849). Born in Boston, U.S., and better known for his horror tales such as *The Black Cat* and *The Fall of The House of Usher*, Poe was also a man ahead of his time and a master of Gothic literature. Among other things, he wrote the first detective story, *The Crimes of the Rue Morgue* and many agree that Auguste Dupin, the protagonist, was the inspiration for Sherlock Holmes and Hercules Poirot.

In his captivating tale, *The Unparalleled Adventures of One Hans Pfall* (1850), Edgar Allan Poe presents a whimsical and thought-provoking exploration of lunar exploration and the possibility of extraterrestrial life. The protagonist, Hans Pfall, devises an ingenious balloon capable of traversing the vast expanse between Earth and the Moon. Upon reaching his destination, Pfall encounters a civilization of diminutive earless men who bear a striking resemblance to Earthlings, hinting at a connection between the two worlds. Poe's depiction of the lunar inhabitants is both fantastical and strangely familiar. Their lack of ears suggests a heightened sensitivity to other forms of perception, telepathy, or some other form of extrasensory communication. Their resemblance to humans raises intriguing questions about the origins of life and the possibility of shared ancestry between Earth and other celestial bodies. The novel

exploration of the Earth-Moon connection is particularly noteworthy given the prevailing scientific views of the time. In the mid-19th century, the Moon was regarded as a barren and lifeless world. Poe's depiction of a thriving lunar civilization challenges these assumptions and opens new possibilities for the nature of life in the universe.

In addition to its scientific speculation, The Unparalleled Adventures of One Hans Pfall is also a delightful satire of human ambition and folly. Pfall's journey to the Moon is driven by a thirst for knowledge and a desire to achieve the impossible. However, his encounters with the lunar inhabitants lead him to question the value of his quest and the limitations of human understanding. What is truly remarkable about this tale is the detailed explanation of the scientific background that supported some of the elements Poe used. It turns out that this master of horror is far less famous for the fascination he felt for empirical methods and the mysteries they uncover. Though not in full force, Poe's era had already seen the beginning of important inventions such as Photography which, in his own words, he believed to be "the most important, and perhaps the most extraordinary triumph of modern science."

The use of detailed scientific explanations often argued to be a burden in the pacing of a story, is commonplace in modern science fiction because it lends a sense of credibility to the events that are being depicted. This element works as a decisive factor that separates science fiction from common fantasy and empowers the notion that futuristic as it is, Science fiction is anticipatory and announces as it paves the way for the technology it describes to become real one day.

If we were to mark the beginning of science fiction as we know it, then this would be it. *The Unparalleled Adventures of One Hans Pfall* is the first science fiction tale ever written since it was the first to use real science as an element of the fiction being described. This also enlarges the importance of Edgar Allan Poe: he was not only a master of horror literature, in prose and poetry but also who gave us the first detective tale and had the vision and knowledge to start Science Fiction, though very much inadvertently.

What about Time Travel?

One other theme commonly used in Science Fiction is time travel. There are a few ancient stories that deal with time travel that have survived (let us not forget that most of those existed in oral form only and were never properly recorded). One of them is that of Urashima Tarō, a Japanese fisherman who one day rescues a turtle. As a reward, the turtle carries him on its back to the Dragon Palace that exists undersea. There Urashima marvels at what he sees and spends there for what he believes to be only days, but when he returns to his village, more than one hundred years have passed.

Urashima's story endured several changes since its original version which is believed to have appeared in the eighth century. In none of the ulterior versions of the story, there is mention of any time device, and the only plausible explanation for what happened to Urashima is that time inside the Dragon's Palace was different from outside the palace. This notion of time is different in otherworldly realms was not so uncommon in the past as we may believe, for instance, in 2 Peter 3:8–9 we

can read: “But do not forget this one thing, dear friends: With the Lord a day is like a thousand years, and a thousand years are like a day…”

It seems that to travel in time, ancient civilizations believed you only needed to leave your reality and step into the land of the gods. There were other methods, but none required the use of any time device. As David Ketterer (1974) says in his book *New Worlds for Old* in some stories “a body transmigration or just a little nap would suffice. *Rip Van Winkle* (1819) is one of those tales. Depicted in a short story by Washington Irving (1783- 1859) one of the first American writers. Rip was an alcoholic lazy man who one day abandoned his town and went into the forest at the bottom of a mountain. There he found a cave where a race of enigmatic dwarfs lived in a never- ending party, playing games, and constantly drinking. Rip was allowed to be there and even drank with his dwarf players. Afterward, he left the cave and felt tired, feeling in a state like that of being drunk, so he lay under a tree and soon fell asleep. When he returned to his town after waking up, he found it completely changed. The people he remembered were not there anymore because he had been asleep for twenty years. When he had left his village that territory still belonged to the British Empire, and by the time Rip returned, it was already part of an independent nation.

Samuel Longhorn Clements (1835 - 1910), an American writer of universal fame who wrote under the pseudonym of Mark Twain, is known for novels such as *The Adventures of Tom Sawyer* and *The Adventures of Huckleberry Finn.* A man of great imagination, he also gave us one tale happening in the English

mythical past as it is *A Connecticut Yankee in King Arthur's Court*. In this narrative, an American man from Connecticut, one who was also clever and restless, is left unconscious after a fight. Then his body and mind travel through time and space in what is called a transmigration. When he awakens, he is in the legendary Camelot where using cleverness, and sometimes trickery, he manages to bring modern civilization to that medieval Kingdom and its people only to see his efforts thwarted and erased by the ambition and jealousy of none other than Merlin, the wizard.

The Man Who Left the Door Open

The extraordinary Jules Verne was born in Nantes, a town next to the sea, in France in 1828 and died in 1925. A former student of law, Verne was also a tireless traveler and spent a good part of his life traveling. He then felt the need to write, but several of his works were rejected at the beginning and his first book to be published would be *Five Weeks in a Balloon* in 1863, a tale of adventures that became an instant hit. The demand was overwhelming and soon he had to author another novel in the same style, the first of a series commonly known as "The Amazing Journeys," and that second novel would be *Journey to the Center of the Earth* in 1864. Thanks to his travels and his innate love for science, he was able to tell stories supported with information about the places his characters visited and the animal and plant species they would encounter in their adventures.

As a writer, Verne's approach to storytelling was characterized by meticulous diligence, striving to render his

narratives as scientifically credible as possible. This deliberate endeavor, while the term "science fiction" had not yet emerged, firmly establishes him as one of the genre's earliest pioneers. Within his tales, he envisioned machines and devices that, in his time, were purely hypothetical and fantastical, but have since become commonplace in our modern world, including concepts like television, space rockets, and submarines.

Verne was careful and intelligent and was concerned with making stories as believable as possible, and he did so by including as many scientific details as the pace of the story permitted (just as Poe would do in *The Balloon Hoax*). This made him a true science fiction writer, even though the term science fiction still did not exist at the time, so we could safely say he was also the first. In his stories, he described machines and devices that are common nowadays, but in his time were only hypothetical and impossible constructions of the mind.

Did Verne Write Science Fiction only?

It is necessary to clarify that not all his novels are exactly science fiction as is the case of *A Drama in Livonia*, a tragic mystery novel written in 1893 and first published in 1904, or *The Survivors of the Chancellor* a novel written in 1875 about the final voyage of the British sailing ship, the *Chancellor*, and told from the perspective of one of the survivors of the tragedy. Some even argue that is correct to consider Verne the father of Science Fiction. Evans (1988) argued that Verne never wrote science fiction, and though his novels brought science to the public eye, really all the technology described in his books already existed or would be promptly

available with the scientific knowledge already existing in his lifetime. Following such a venue, we could say then that the merit of Verne's works resided in his ability to take that knowledge and shape it in a way that the common reader could approach all those concepts, unavailable to them, understand them, enjoy, and use them to find inspiration.

Two of Verne's most important stories that have been disregarded as science fiction are *Journey to the Center of the Earth* and *Five Weeks in a Balloon,* for they recount events that connect better with the concepts of fantasy and adventure. *Five Weeks in a Balloon,* for example, is a tale of the exploration of Africa, which was still not complete at the time, a 4,000-mile balloon trip over the mysterious continent of Africa, a trip that would only be possible in the twentieth century. *Journey to the Center of the Earth* tells us about geologist Professor Otto Lidenbrock who believes volcanic tubes are going toward the center of the Earth. Along with his nephew Axel, and their guide Hans, Professor Lidenbrock descends into an Icelandic volcano to make several unexpected discoveries including animals long-extinct living in a secret world, giant human beings that shepherd dinosaurs, and a primeval ocean that harbors enormous sea predators, all that before returning to the surface at the Stromboli volcano in Italy.

Five Weeks in a Balloon includes the use of science as a resource. The protagonist, Doctor Samuel Fergusson explores Africa with the help of a balloon filled with hydrogen which operates with a mechanism that eliminates the need to release gas or throw ballast overboard to gain altitude, thus allowing longer trips (in fact a trip like the one described in this story

was possible only in the twentieth century). In *Journey to the Center of the Earth,* Verne truly falls to the idea of a hollow Earth, a concept that still has adepts these days; yet most of those ideas about the interior of the Earth have since then been disproved several times (McCoy, 2015).

Verne was a man of his time and archaeological knowledge by then was limited or purely speculative; however, Verne included several geological, paleontological, and even paleoanthropological elements that enrich this story, and do precisely what most Science Fiction stories are supposed to do: present their events credibly so the readers may dream all these things can become true in the future. Indeed, our planet is not hollow, but its interior can be and will be explored someday when the necessary technology for that is developed. *Journey to the Center of the Earth* is truly an exciting imaginary adventure and is also a genuine piece of science fiction just as much as the ones that followed then on.

The Nautilus, the Undersea Sword

Jules Verne did not invent the submarine. Submarines already existed, but they were rudimentary at best, in small and narrow spaces, and impractical for long missions. When Verne imagined his submarine, he made it large and imponent, capable of staying under the sea for as long as necessary, and fancy and awe-inspiring just like its owner, Captain Nemo. With that in mind he concocted a story where, along with the human characters, the submarine was another character and became so famous that the first electrical submarine ever built was also named after Verne's creation as was the first atomic submarine.

In his masterpiece *Twenty Thousand Leagues Under the Seas*, the Nautilus is the name of the submarine where this undersea adventure takes place. It all begins in the year 1866 with puzzling reports from ships of several nations of a mysterious sea monster thought to be a giant narwhal. An expedition is assembled in New York to find and capture the strange sea creature. Professor Aronnax, a marine biologist in New York at the time, receives a last-minute call to become part of the expedition. Ned Land, a skilled harpoonist, and Aronnax's servant, Conseil, are also part of the team.

The creature is the submarine, the Nautilus, built in secrecy and operating under Captain Nemo's orders who does not ascribe to any power. Accidentally, Aronnax, Ned Land, and Conseil end up inside the Nautilus where they marvel to learn the "monster" is a staffed undersea vessel. Later, they are introduced to Captain Nemo who is presented with characteristics that would label him today as an ecoterrorist (the first literary character with those characteristics) and who claims to side with the oppressed. Nemo shows them some of the wonders he has found in his voyages like giant clams and crabs, the sunken ruins of lost Atlantis and they even travel to the Antarctic Ocean. Aronnax and the others are prisoners though treated kindly, but they choose to flee believing that Nemo's contempt for mankind has turned him into a madman. The final act of this story happens when the Nautilus is lost facing a maelstrom with Nemo inside (in another story, *The Mysterious Island,* Nemo is revealed to be alive and the Nautilus is stranded, it is in this novel that Nemo dies),

Twenty Thousand Leagues Under the Seas stands out for several reasons from among the others written by Verne. Even though, Verne dedicates entire pages to explaining geography and marine life in detail, those descriptions advance the plot slowly, and the real progress happens when Verne decides to explore characterization and lets us see more about the characters: thus, we learn that Aronnax is idealist, Land is obsessed, and Nemo is unforgiving. Besides all the entertainment it provides, the book shows some of Verne's beliefs and allegorically presents technological advancement as a potential hazard that would lead humanity to a dark fate, another recurrent theme in science fiction. Verne never states that openly and instead chooses to do it through some of his key characters which makes Nemo and the community he created inside the Nautilus (all of them men from different nationalities) the most compelling representatives of such ideals. We could say the social community created by Captain Nemo is the clearest expression of his concern to overcome nationalism. The crew of the Nautilus use an incomprehensible language of their own, and only when attacked, by the now classic giant octopus, one decides to use French, his mother language, to desperately seek help. This proves that Verne had a unique vision of future technology, but also of the future of humankind.

Verne was an innovative author, but he was also a concerned man. He saw technology as the way of the future; however, he was also preoccupied with what men could do with that knowledge, and that concern would become recurrent in his works, especially those labeled as the Amazing Journeys. Another common element was the use of French characters.

Though understandable since Verne himself was French, he was not a nationalist, and often used characters born in the U.S. in his stories. He would always resort to some mechanism, sometimes coincidence as in the case of Professor Aronnax, making sure there was a French character in the mix of the story as it was the case of his following hit, none other than *From the Earth to the Moon* (1865).

The Final Frontier

Space travel is by far one of the most exciting elements in science fiction stories, but it was not precisely a concern during Verne's time. Astronomy had already made noteworthy progress and archaic ideas like the Earth being flat or placed as the center of the solar system had already been proved false, but there was still a lot that remained unknown. The exploration of space was a distant dream, and humankind was still looking at what was on the planet's surface rather than what lay ahead of the skies.

And then in 1865 *From the Earth to the Moon* was published.

The story begins in the United States, some years after the end of the Secession War when members of the Baltimore Gun Club decide to build the largest cannon in the world ever created and target the Moon with the glaring idea of destroying it, and thus become famous (sounds ridiculous, but Verne was in the habit of being satirical sometimes). That idea is discarded and replaced by a different project which is sending human beings to the Moon. Once the government is informed of this

project by the Cambridge Observatory, calculations related to the construction of the cannon begin to be made. Already with the necessary funds for its construction, the cannon is built in Florida and is ready to shoot a projectile, a capsule containing three passengers: Impey Barbicane, president of the Gun Club; Captain Nicholl, an enemy of Barbicane's; and Michel Ardan, a French adventurer. The cannon is launched, but the projectile fails to reach the moon and becomes a satellite instead.

The fate of the three failed astronauts is told in another novel, *Around the Moon* (1870). The projectile enters lunar orbit thanks to an encounter with a random asteroid which lets the astronauts make geographical observations of the moon's surface. They can view several craters on the Moon, but all of this after a series of perilous situations that lead them to believe they may never return. Ardan then produces the idea of using the rockets fixed to the bottom of the projectile (meant to soften the shock of landing) to propel them toward the Moon to fulfill their mission, but that also fails, and they fall back onto Earth instead. Moments before leaving their lunar orbit, they can see the dark side of the Moon (that in Verne's time remained elusive to all telescopes). A rescue operation is mounted, and the three men are found to be alive and well somewhere in the Pacific Ocean.

Verne's decision not to have his characters land on the Moon was a testament to his scientific rigor and prudence. He was aware of the limited knowledge available about the lunar surface at the time, and he did not want to compromise the credibility of his story by speculating on conditions that were not yet well understood. However, Verne could not resist the

allure of the unknown, and he deliberately left the door open to the possibility of lunar life by including the final glimpse of the Moon's dark side. This subtle hint of ambiguity serves to remind the reader that even the most knowledgeable scientists cannot be certain of everything and that there is always room for wonder and speculation. The astronauts' skepticism is also a reflection of the scientific mindset. They are trained to question everything, and they are not quick to jump to conclusions. Even when they are presented with evidence that suggests the possibility of something extraordinary, they are careful to consider all explanations. As in his other novels, *From the Earth to the Moon* and *Around the Moon*, Jules Verne attempted to popularize scientific knowledge amusingly. When he chose to imagine a trip to the moon, he was looking forward to educating his young readers in fields as diverse as astronomy or artillery, and for that sometimes he had to rely on theories whose plausibility, due to lack of scientific training, could not be verified. Still, the impact of these two works endured the test of time and inspired other writers to look at the stars now as well as people in different fields.

Verne's Legacy

From the depths of the ocean to the reaches of outer space, Verne's imagination knew no bounds. His novels, meticulously researched and infused with a deep understanding of the latest scientific advancements, painted vivid portraits of worlds both real and imagined. Through his captivating storytelling, Verne ignited a passion for exploration and discovery in countless readers, encouraging them to dream big and strive for the impossible.

Verne's influence is evident in the countless technological advancements that have shaped the modern world. From submarines to rockets, many of the inventions that were once mere figments of his imagination have become commonplace realities. His works continue to inspire scientists, engineers, and entrepreneurs to push the boundaries of what is possible, driven by the same spirit of curiosity and innovation that fueled Verne's writing.

If Science Fiction did not begin with Jules Verne, we could say then that it could not have come into existence without him. Jules Verne is different from other writers in terms of his works remaining fresh even to this date and has also gained followers who do not hesitate to call him the "Father of the Future." This title has been argued by others like Derbyshire (2006) who claim that though Verne was a gifted storyteller, he "had not sufficient powers of imagination, or scientific understanding, to rise to true science fiction". This is always debatable (Verne was a bourgeois man and the son of a wealthy lawyer after all), but what cannot be denied is the notorious influence of his works, an influence that is not limited to the popularization of science, but also other themes like the collaboration of countries towards a common goal or just his optimism and faith for what mankind could accomplish should they decide to do the right thing.

Despite all that, for a long time, Verne's novels were considered just fantasy tales, extraordinary at that, but still just fantasy works, and no one, not even him, could realize that he had started something new. Curiously, for decades, nothing worthy of being considered science fiction was produced by

any other author, however, that would change when a British author named H. G. Wells told us about time traveling and aliens attempting to invade our planet.

H.G. Wells

After Verne stopped writing, some authors tried to fill his shoes but could not replicate his success, except for Herbert George Wells, commonly referred to as H. G. Wells. Born in Kent England on September 21st, 1868, Wells used to be a teacher in a rural school but did not have a degree, so his salary was low. Profoundly in love, he got married at an early age, however, he did not seem to find happiness in the life he had and abandoned his wife and his job. Wells ran away to London with one of his students who would later become his second wife, and it would be there where he would be hired as a journalist. London was at the time the largest city in the world, the center of the process called the Industrial Revolution which saw the transition from traditional to more effective and diverse manufacturing processes, and the place where people from various parts of the British Empire came together (Britain Express, n. d.).

Wells was a much-needed writer since there was no one else who could continue the trend that Verne had started. With his innovative and daring ideas, he became another landmark in the development of Science Fiction and reinvigorated this rising literary manifestation that still needed to have an identity of its own. As detailed in this document before, that consolidation would happen when Hugo Gernsback created the term Science Fiction which has remained till the present. A shorter version,

Sci-fi, would appear in the fifties when the genre had already become of the popular culture.

It was Wells who first imagined a machine capable of moving through time and space in *The Time Machine* (1895), his first novel. This idea is so fascinating that even though modern physics assures us that traveling through time is an impossibility, at least in the current stage of science, most sci-fi series, movies, and in particular pseudo- science fiction writers, use it all the time.

Travel to the Future

One of the first stories to describe time travel and its implications is precisely *The Time Machine*. It all begins with a mysterious scientist who is upset at the skepticism of his colleagues. This scientist (whose name is never revealed) discovers how to enter the "fourth dimension" (Time) and builds a machine that allows him to do that precisely. The Traveler uses the machine intending to know the future of humankind and travels to the year 802,701, but instead of finding a fully developed human society, he meets the Eloi, humanoids without intelligence or physical strength and quite hedonistic. The Eloi live in the subjugation of another race who dwells underground, sinister creatures known as the Morlocks who at night come out to feed on the Eloi they captured. After a confrontation with the Morlocks, the Traveler travels even further into the future until he witnesses the disappearance of life on Earth and then, the extinction of the Sun. When he returns to his time, the Traveler tells his colleagues about his amazing expedition, but they do not believe him. One of them

returns the next day and sees how the traveler begins another journey. This person, who is also the narrator, clarifies that all those events took place three years earlier and that now he is still waiting for the Traveler to return.

The Time Machine is not only the first story that presents a traveling device but also the first story with a dystopian future. Wells was not overly optimistic about the future of mankind, and the society that he presents with Elois being the prey and the Morlocks being the predators is an allegory of the cruel way society behaved when he was alive. Pavey (2020) argues that the Time Machine's intended purpose is not to be just another adventure story, but an opportunity for readers to challenge themselves and examine their humanity in a different light.

Another Doctor Jekyll

A man practicing a dangerous experiment upon himself who then goes mad sounds familiar because it is not new, and it was not new in Wells' time either. *The Strange Case of Dr. Jekyll and Mr. Hyde* had been published back in 1886 less than a decade before Wells published *The Time Machine*, so this new concept of regular people obtaining great power thanks to some strange experiment was still fresh in the minds of the audiences. What Wells did differently from Stevenson was to let the protagonist be in control despite the unusual characteristics of his resulting transformation, in this case, absolute invisibility.

The *Invisible Man* (1897) begins in the town of Iping, in West Sussex, England, with the arrival of a mysterious stranger at the local inn. The stranger wears a thick long coat and gloves,

and his face is completely covered by bandages, large glasses, and a wide-brimmed hat. The stranger never leaves his room and does not want any visitors. Mysterious robberies take place in several houses, but no one has ever seen the thief.

One morning, the innkeepers, accidentally discover that the thief is the stranger and that the stranger is an invisible man. The police try to catch the stranger, but he manages to run away. After a failed attempt to recover his belongings left in the inn, the invisible man ends up injured at Dr. Kemp's home. The invisible man tells Dr. Kemp that he is Griffin, a student with whom Kemp studied at university. Griffin had developed a formula that made him invisible, but his purposes were malevolent, so Kemp figured out that because the formula had not been finished, Griffin had been driven insane. Kemp tried to set the invisible man in a trap with the help of the Police which would eventually lead to Griffin's death.

The Invisible Man unveils what would be another concern of science fiction writers which would be how easily uncontrolled power can change a person's motivations. In the beginning, Griffin's real purposes are hidden from us, and it is only when he interacts with Kemp that we get to learn what Griffin wants, and the crooked path that led him to create the serum. The first time Griffin used the formula he invented he did so to hide from those who were chasing him, a detail that is definitive and leaves us with the question of how Griffin would have acted had he not decided to drink the invisibility serum so soon.

Weiler (2014) asserts that H.G. Wells employs a "strong bias" against Griffin in his narrative, likely to craft a more

compelling "villain" despite the absence of a traditional hero to oppose him. Instead, it is society itself that assumes the role of antagonist. This societal reaction to the disruption of the established order caused by Griffin's invisibility is a recurring theme in Wells' works, particularly those that delve into the realm of the fantastic. In The Invisible Man, Griffin's invisibility grants him immense power, which he wields with a ruthless disregard for the consequences. He becomes a menace to society, committing acts of theft, violence, and terror. However, Wells does not present Griffin as a purely evil character. Rather, he is portrayed as a brilliant but flawed individual whose descent into madness is fueled by his arrogance and ambition. The narrative is heavily biased against Griffin, with Wells frequently employing language that demonizes and dehumanizes him. For example, he is described as a "monster" and a "fiend". This negative portrayal serves to alienate the reader from Griffin, making it easier to view him as a villain. However, the absence of a traditional hero in the novel creates a sense of ambiguity. While Griffin is a villainous figure, there is no one to stand up to him and represent the forces of good. Instead, it is society itself that must confront and defeat him. Griffin's ability to render himself invisible represents a violation of the established order. It is a power that is both alluring and terrifying, and it is one that society is not equipped to deal with. As a result, Griffin is met with suspicion, hostility, and violence. He is ostracized and hunted down, and in the end, he is destroyed by the very society he sought to dominate.

First Alien Invasion

One other reason for which Wells will be remembered is the story he told in *The War of the Worlds* (1898). Deemed as the first of a lengthy line of novels, the central idea of which would be extraterrestrials coming to our planet with malevolent or benevolent purposes. *The War of the Worlds* introduces such an idea and though the novel itself is a bit slow, the concept itself was fascinating.

The idea of visitors coming from the stars, beings that did not look like us, who were not gods or angels and were bent on killing every one of us, may not shock anyone these days, however, the mindset of most people in those times was a different thing. At the beginning of the twentieth century, a great part of the world population still harbored notions of a geocentric universe, which is a universe that revolves around Earth, a belief that somehow persists even in our time (Dobrijevic, 2021). The notion that our solar system was not the center of the universe was already known, but most people ignored it because education remained a privilege of the elites. It is a surprising fact that illiteracy was common and considered part of the natural order of things, a sorry situation that experienced a significant change only at the end of the XIX century when Western governments began taking care of education as part of their state policies (Education | Definition, Development, History, Types, & Facts, 2022).

The War of the Worlds is narrated in first person, a detail which allows the reader to know, a little bit too soon perhaps, that there have been survivors. It is precisely one of them who

tells the story. It turns out that Mars had been observed for some time, and still little was known about the planet and its inhabitants, though the same could not be said about Earth and the Martians' perspective. Then Martians traveled in cylinders that crashed into the English countryside revealing the Martians. They are described as beings without a precise shape, more like blobs who did not move about with ease which is why they built enormous tripod-like vehicles, their version of military tanks only with legs that wandered around burning everything and everyone in sight with deadly heat rays and suffocating black smoke. The British Army fought the Martians, lost badly, and by extension, humanity was doomed as well. Eventually, the Martians end up all dead after being infected by microbes against which they have no immunity. The narrator reunites with his wife again and meditates about what this horrific experience has taught humankind.

This novel would not do so well with today's audiences. Readers these days long to be surprised, which is truly a tall order, and because of this, writers of every genre make impressive efforts to produce stories that are not only groundbreaking in their conception, but also in their deliverance. When Wells chose to tell this story in first person, as a false witness, he also revealed from the beginning that the Martians' attempt to destroy all human beings failed, and thus he spoils the surprise. He did this on purpose and these words: **"**I had rather be called a journalist than an artist" (Write, 2021) reveal the kind of approach he tried to adopt for *The War of the Worlds.* The narrator's voice remains pragmatic, even distant, throughout the story as he prefers to tell us things assuming the role of a chronicler rather than that of an eyewitness, and his feelings or

emotions or those of other characters are rarely described or dealt with.

There is no climax, a real resolution, or even space for reflection to weigh on the consequences of the invasion. Beyond the fact that people afterward could go to the museums and see the remnants of alien war machines and the corpses of invading Martians, life on Earth seemed to continue unaffected, which was of course hard to believe. The idea of writing sequels of stories that could potentially supply more was not as common as it is nowadays. Also, the circumstances taking place in Europe at that time were dire and convoluted as though those conditions were already announcing the coming of the Great War, the first name given to World War I.

Though Wells became popular for his incursions into Science Fiction, he also authored novels and short stories that do not belong to that genre. They were realistic, tragic, also didactic, and usually permeated with social criticism. As a cosmopolitan person, he also wrote travel stories and even tomes of world history.

The War of the Worlds stands out for several reasons, not only for its uncommon plot but also for the clever resolution to the problem that aliens were posing and for the pessimistic portrait of how human beings would react and fare in front of a power greater than themselves. There are no heroes here, in fact, heroes are not found in Wells' stories, and people react as they would react in a situation like that: disorganized and in complete panic. The fact that they are saved in the end by something smaller than themselves is certainly ironic. It was a great stroke of genius, but also a powerful criticism of the

homocentric idea that mankind is the epitome of all creation.

One other reason *The War of the Worlds* is also remarkable would be the fact that it ended up being an unintended harbinger of conflicts greater than the very conflict described in its pages. The map of Europe was marked with several points of friction caused by disagreements and grievances that mere treaties could not fix and, therefore, the situation was about to explode. That moment would come, and the inhabitants of that time were already concerned about what could happen, and H.G. Wells was no exception.

In the end, Wells saw the beginning of the twentieth century and both world wars. In our time, and because of his innovative works, he is rightfully known as the founder of English science fiction. He died in 1946 at Regent's Park in London after having set the stage, along with Jules Verne, for what was about to come.

El Anacronópete

Wells's creations met with enormous success, but not all of them were masterful or groundbreaking. The idea of time-traveling was first explored by a Spanish author known as Enrique Gaspar y Rimbau (1842-1902), a frustrated Spanish writer who published *El Anacronópete* (1887) eight years before *The War of the Worlds*, a story originally written to be presented as a *zarzuela* (a Spanish form of musical theater). The Anacronópete was indeed a time machine that somehow worked thanks to the use of electricity the use of which was still in development and was seen as a manifestation of human

progress. Its name came from three Greek words: *ana*, which means backward; *chrono* which means time, and *petes*, which means one who flies. In the story, the name of its creator is Sindulfo García who created his machine to take it at the International Exhibition in Paris (at that time the cultural center of the world). There he begins a journey joined by several other characters that go with his visits to places and events like Granada in 1492, Ravenna in 690, China in the third century, Pompeii during the eruption of Vesuvius, and even beyond.

El Anacronópete has only in recent times been recognized for what it is, the first written production that introduces a time machine. It may not be as "scientific" as works from Verne or Wells, but then again Gaspar y Rimbau was not precisely a science fiction writer. Besides, he truly attempts to explain the way his machine worked, and though it was not scientifically founded (it was based on how the atmosphere functioned and the machine itself moved in the opposite direction of Earth's rotation when traveling), we could say that at least he tried. Wells himself did not get into details about his time machine, barely describing its shape or its scientific foundations.


4

The Big Bang

Since the appearance of Wells, the world has been changing, sometimes drastically. One of those changes happened during the first half of the 20th century when the United Kingdom gave up its place as the first power in the world in a process that would end around the 1960s (British Empire | Decline, n.d.). By then, a young nation on the other side of the Atlantic Ocean had become the promised land for thousands of immigrants coming from all over the world, particularly from the overpopulated European coasts. The United States of America was quickly and steadily rising to claim the place England was unwillingly relinquishing, and in doing so it became the home of the brightest minds and the most innovative ideas of that time.

It was logical then that the next installment in the development of science fiction would take place in the United States of America. So it was, and so it has been from then on. In the early and middle 1920s, magazines became a common way

of popularizing culture. Magazines, more than books, made possible the only thing Science Fiction needed to become truly universal, which was to become available for the masses, for those who in the future would become its greatest fans.

Amazing Stories, Science Wonders Stories, and Air Wonder Stories were magazines well known by these enthusiastic followers of the sci-fi genre. Published from the spring of 1926 onwards, Amazing Stories introduced in its first issue the first classic in science fiction: *The Skylark from Space* by Edward R Smith and Lee Hawkins Garby. These magazines published mainly short stories like *The Man Who Evolved* by Edward Hamilton; *The Jameson Satellite* by Neil R Jones; *Submicroscopic* and *Awlo of Ulm* by Captain S. P. Meek; *Tetrahedra of Space* by P. Schuler Miller; *The World of the Red Sun* by Clifford D. Simak; *Tumithak of the Corridors* and *Tumithak in Shawn* by Charles R Tanner; *The Moon Era* by Jack Williamson; and *The Man Who Awoke* by Laurence Manning. Most of those writers struggled to have a style for which they would become recognized and write tales that would make them famous, but most of them would not endure. Only Clifford D. Simak (1904 – 1988) persisted and rose to prominence. He is counted among the big talents, especially after publishing such fine works as his outstanding novel *Cemetery World,* among others.

The Golden Age

In 1930, the Outstanding Stories magazine started publication and in 1938 a skillful and clever man named John Campbell became its editor transforming the magazine and at

the same time the genre. The Golden Age of Science Fiction began and with it came names such as Robert Heinlein, Isaac Asimov, Ursula K. Le Guin, Arthur

C. Clarke, Ray Bradbury, Harlan Ellison, Larry Niven, and others whose names would become true landmarks in the field.

John Campbell (1910 – 1971) was initially a writer who published stories in science fiction magazines. His most important work is the novella *Who Goes There?* (1948), which takes place in Antarctica where an expedition discovers a crashed spacecraft that had been there for a thousand years. There is also the corpse of an alien, that when dissected brings about dire consequences for all the members of the expedition. This story has been made into a movie several times and has been successful with titles such as *The Thing* or *The Thing from Another World.*

Despite writing one of the most astounding stories in science fiction and horror, Campbell's main contribution to the genre, however, was in editing when he became the editor of the *Astounding Science Fiction* magazine. Campbell began a true revolution in the science fiction of the time with a more rigorous treatment of science, as well as a greater literary quality in the story. He also welcomed new authors with great ideas and under his helm, *Astounding Stories* became predominant during that time which was also called "The Campbell Era."

That golden age lasted until 1950, but it has not finished yet or another has started because never has the genre shown such vitality and had a collection of so many talents. All of

them appeared in that decade and until this date, they remain the finest writers ever in Science Fiction. Among them, there are three whose works experts and fans usually regard as the most transcendental; one of them was born in Russia when it still was the U.S.S.R. His name was Isaac Asimov, the man who dreamed of robots with a gentle demeanor and galactic empires that were reluctant to fall apart.

Asimov, the Great Clarifier

With the coming of the Campbell era, an element became a definite part of the science fiction genre and that was the scientific base of each of the stories published in *Astounding*. This would influence the genre and would help to set it apart from common fantasy. Most writers would certainly strive to follow this requirement, some with greater success than others, and the one who ascribed better to this rule would be the great Isaac Asimov.

Born in Petrovichi (a town in Russia) in 1920 his family was of Jewish origin and his economic status was modest. When he was only three, the Asimovs decided to migrate to the United States of America through Ellis Island in 1923, and because he was three years old when he arrived in America, the young Isaac Asimov gained instant citizenship. From the beginning, Isaac showed he was a gifted child: all his classmates were usually older than him, but he was always first in his class. His irreverent personality was also clear even in the decisions he made as a writer for he would always prefer to use simple but clear expressions instead of the pontifical terms that other writers of his time loved to use. An avid consumer

of pulp fiction, Asimov would publish his first stories with critical success in the early 1940s, stories that overflew with vitality, originality, and an evident desire to entertain. Asimov is remembered for his science fiction works, but he also wrote about mathematics, astronomy, chemistry, and even history. Back in 1964, Asimov predicted what the world would be like in fifty years, and he was correct in some of his predictions. He predicted video calls, microwave ovens, coffee machines, automatic cars, and of course, robots though not in big proportions. Besides, Asimov referred to the future of mankind in terms of what we do as a society and was emphatic in saying that gender equality was essential if we wanted to succeed as a surviving species and was pessimistic about technology claiming that quite probably not everyone on this planet would benefit from all its advances.

During his life, he was a prolific writer and is said to have written more than five hundred books. If somebody made a list of the most prolific writers of all time, his name would certainly be there along with others like him such as Stephen King, though Asimov stands out not only for his versatility but for his astounding contribution to the science fiction genre and the world of science by extension.

Asimov died in 1992 when he was seventy-two in New York after complications that stemmed from a transfusion with blood contaminated with AIDS during an operation, ten years before.

Asimov's Earliest and Most Seminal Tales

At the beginning of his career, Asimov was a biochemist who worked at the University of Boston. At the time he authored only short stories, and it was then that he wrote *Ring Around the Sun* (1940), *Heredity* (1941), *Nightfall* (1941), *Super Neutron* (1941) *Not Final!* (1941) *Death Sentence* (1943), *Christmas on Ganymede* (1942), and *Blind Alley* (1945) *Ring Around the Sun* is a comic tale about two men who dislike each other but must work together as space travelers. One day, they are assigned a dangerous mission to try and find a new route to transport mail to Venus. The problem is that they must travel in an orbit extremely close to the sun where they face certain death. When they get back to Earth, they learn that the simple manipulation of one mechanism in their starship would have spared them all those troubles. It was their lack of common sense that made them ignore the instructions given to them before their voyage.

In *Heredity,* a pair of identical twins are separated at birth as part of a study to solve the nature versus nurture question. One is raised on Earth, while the other is raised in the provincial Ganymede. On their twenty-fifth birthday, they are introduced to each other and are compelled to run the family farm on Mars, where they are forced to cooperate and also use primitive technology to endure the coming of a major dust storm. After their first mutual dislike, they become close friends.

Nightfall deserves special attention for it has been considered the best science fiction short tale ever written, and all science fiction anthologies include it. Most polls aimed at

sci-fi fans put it in first place and even other writers praise it. Asimov himself confessed that authoring this story marked a turning point in his life and promoted him from being a second-rate writer to a successful one with this tale about a civilization that after two millennia of enjoying the combined light of six suns faces the imminent event of nightfall. The problem is that the members of this civilization are not prepared, they are not used to darkness and are afraid of it. When nightfall occurs, they see the countless stars and they also discover that they are not unique, and everyone goes mad.

Super Neutron is interesting since it does not take place in space but on Earth. It is about a small group called the Ananias society whose members gather just to tell one another the most unusual and believable lies. The honor of being president is granted to the greatest liar, the one who can convince others. One day, a stranger joins them claiming to be a scientist who has discovered Earth is about to be destroyed in just minutes because of a cosmic occurrence. The others question him, but his answers are so logical and so carefully explained that the members of the group end up believing him. Together they wait until that moment and when nothing happens, they rush to acknowledge the stranger as their new president.

Death Sentence is the perfect introduction to Asimov's robot stories. In this story, the whole Galaxy has been solely populated by humanity. Entire millennia have passed since mankind left their mother planet to populate the stars. An explorer finds a solitary world which is singular because is entirely populated by robots who resemble the humans that left them there. When he returns and presents his reports, he

also informs that this race of robots is about to reach the same technological level as the current human society which means they would become a rival power, and thus that means certain death (or termination) for the robots. The researcher who found them refuses to let that happen and decides to warn the robots. He travels back to the planet and the city where he met the robots, a place called New York.

In *Not Final,* Earth colonists on Ganymede make an amazing discovery: there is intelligent life on the planet's surface. They establish communication with the Jupiterians and exchange scientific information, but soon the Jupiterians realize that the humans are different which is intolerable in their culture, so they stop all communication now bent on destroying humans as they believe us to be inferior beings.

Christmas on Ganymede happens at a time when mankind has already managed to settle on the livable planets or moons of the solar system. Precisely Ganymede, which is one of the larger Jovian moons, is the place where humans face a crisis caused by Olaf Johnson, who tells the Ossies, an indigenous race also the only working force in Ganymede, about Santa Claus. The Ossies want to be visited by Santa, and they refuse to work which would cause a great commercial crisis. Intending to prevent that problem, Johnson himself dresses up as Santa and with the help of other humans, he stages a visit from Santa. Happy after the visit, the Ossies go back to work on the condition that Santa will come to visit them once every year. Humans are then left worried because they figure out that the Ossies meant a Ganymedean year which lasts only seven days or so.

In *Blind Alley*, Asimov offers us something extremely rare in his production: a view of what aliens might be like. Asimov was reticent to believe in aliens or to write about them. He often worked out against those who would favor any propaganda on UFO sightings the authenticity of which he openly questioned. With *Blind Alley,* Asimov introduces the Cepheids, a non-human alien species discovered by the Galactic Empire (this empire would be important in some of his future works) who are taken from their dying planet to another by the empire. They are treated kindly and given everything they need but remain as lab rats. The Cepheids are a kind and gentle race, however, they want to be in a place of their own where they can continue their development without any interference, so they trick their guardians and manage to escape to a secret place in the galaxy away from their human "protectors."

Each of these stories has a message of its own, each one reflects Asimov's several concerns about the future of humankind. Though we could argue that he was mostly optimistic, when we analyze deeper, we find that this claim is imprecise. Asimov was indeed optimistic about the future of humanity, but with reservations as though he wanted to imply that technology will indeed make our lives better, but it will not better ourselves. Humans are still the same kind of creatures with the same biases and frailties as in *Ring Around the Sun* where the protagonists dislike one another for no other reason than they just cannot easily reach an agreement on what to do exactly to overcome the dire situation they are going through. Still, his hopes for a better future were quite clear as it is seen in the series that he created around one of his most beloved characters, Lucky Starr, Space Ranger.

Asimov's Western Saga

By the time Asimov and others were surfacing, there was another phenomenon going on in both television and the cinema industry. These were productions that introduced a new kind of heroes, brave gunslingers who lived in the near past during the

U.S. expansion towards the Pacific coast, wore hats and though they mounted horses were called cowboys. Those stories were and are commonly known as *Westerns*. Just like superheroes were the trend in the first part of the XXI century, the fifties and the sixties were dominated by the Western genre, and their influence was a cultural phenomenon that also influenced the science fiction writers of that time, including Asimov to a certain extent. In 1952, he began his *Lucky Starr* series with *David Starr, Space Ranger.* David Starr loses his parents in a pirate attack on an asteroid where they lived. He is then raised by members of the Science Council, the organization that functions as the government in this future where humankind has already begun space colonization. David Starr works as a special agent for this organization and is helped in his various adventures by a small human from Mars, called John Bigman Jones. This character's name would later become Lucky Starr in *Lucky Starr and the Pirates of the Asteroids* (1953) which was followed by *Lucky Starr and the Oceans of Venus* (1954) *Lucky Starr and the Big Sun of Mercury* (1956), *Lucky Starr and the Moons of Jupiter* (1957) and *Lucky Starr and the Rings of Saturn* (1958) all written under the pseudonym, Paul French (the only time when Asimov used a pseudonym was when he wrote his *Lucky Starr* stories).

In his adventures, Lucky gets to meet the human inhabitants of other worlds and faces different threats, particularly from Earth's rivals in the system of Sirius. They are descendants of Earth who want to take over the Solar System. In general, Lucky Starr's stories embrace multiculturalism and respect for what was different (and in space, everything is or becomes different). The arguments were solid, easy to get to, focused on offering an understanding of the Solar System, and the different space settings were described in detail. These stories included mystery and adventure, with Lucky Starr showing not only courage but also intelligence to find solutions for each of the dire situations the Science Council must face.

It is in the *Lucky Starr* series that it is possible to find the seeds for the classical themes of the Asimovian production: Robots, the Galactic Empire, and the Foundations. Each one would become a piece of a much larger design, one that would encompass the future of humanity until the creation of something larger and more spectacular than mere galactic empires.

Asimov's Positronic Robots

Asimov's robot stories are placed in an initial period during the colonization of the galaxy before the birth of the first galactic empire at a time when humans used robots to perform the most diverse tasks, some of them too dangerous for human beings to accomplish themselves. The Robot series is a set of thirty-seven short stories and five novels with the most important being *The Caves of Steel* (1954) and *The Naked Sun* (1957). Both books are interconnected, and their story happens

when human civilization does not dwell on the surface of the planet anymore and has retreated to underground steel cities. Humans have populated planets far beyond the solar system forming societies different from the one inhabiting the mother planet. These humans are called Spacers, and they keep an uneasy relationship with earthmen (a situation that Asimov also brings about in the *Lucky Starr* series). The protagonist is a terrestrial detective, Elijah Bailey, who makes an unlikely partnership with R. Daneel Olivaw (the R stands for Robot). In *The Caves of Steel*, a prominent Spacer is murdered, and Elijah Baley is ordered to go to the Outer Worlds (the worlds beyond the Solar System) to help find the killer. It is in this mission that Elijah is assigned to partner R. Daneel and must learn to work with him. In *The Naked Sun,* Elijah Bailey and R. Daneel Olivaw travel to Solaria, a world with inhabitants extremely seclusive to investigate the murder of one man who communicated with others only by using holograms. The suspects are either his robots or the woman who loved him but never met in person.

When reading Asimov's robot saga, we also learn about Asimov's concerns about the problems that humankind would face because of technology, specifically their relationship with robots. On one side, we have the earthmen who are so used to living in their underground cities that most suffer from agoraphobia and have grown distrustful of robots. On the other side, we have the Spacers who have embraced technology and use their positronic robots for everything. It is not a surprise that both societies look at one another with distrust or contempt.

The term "positronic brain" was just an electronic brain, a concept invented by Asimov, which made robots act as though they were human. The reason they are deemed "positronic" was apparently because the positron particle had recently been discovered and does not allude to any specific part or function inside the brain. Those brains are all created with the famous Three Robotic Laws and were introduced in a short story called *Runaround* (1942); they are:

A robot may not injure a human being or, through inaction, allow a human being to come to harm.

A robot must obey the orders given to it by human beings except where such orders would conflict with the First Law.

A robot must protect its existence as long as such protection does not conflict with the First or Second Law.

The Robot Saga would continue in *The Robots of Dawn* (1983) again with Elijah and Daneel investigating a case where Psychohistory is first introduced in a non- Foundation book. Robots are assuming a more prominent role in developing unique skills like telepathy. The last official robot novel would be *Robots and Empire,* taking place hundreds of years later, and with Daneel Olivah gaining knowledge of a society of robots that exist in a human-deserted Solaria. The robots, the only inhabitants after the last human being died long ago, still functioned to honor their prime directive: to protect human beings and had been working with a secret purpose: to make humankind leave Earth to keep on colonizing more planets until they become a galactic empire.

A Galactic Empire

The Empire series depicts the development of the Galactic Empire, placed between the Robot series and the Foundation series, and is comprised of three novels and one tale: *The Stars, Like Dust* (1951), *The Currents of Space* (1952), *Pebble in the Sky* (1950) and *Blind Alley* (1945) which is a short tale. Though written on different dates, they should be read in the order presented before to make perfect sense.

In *The Stars. Like Dust,* it is revealed there are around one thousand and ninety- nine planets that have been colonized and the arrival of humans in Tyrann heralds the beginning of the Galactic Empire, and in the meantime, planets forge alliances, small conglomerates destined to disappear one day. *The Currents of Space* introduces the Trantor Confederation, the organization that precedes the Empire already governs half of the Galaxy in a million inhabited planets, but a sudden threat arises that may stop the development of the future empire. *Pebble in the Sky* is set on Earth long after the beginning of human colonization of the Galaxy, and we get to see that Earth is being abandoned and forgotten when a man from the twentieth century accidentally travels forward in time. This man gains the privilege to witness the Galactic Empire at the height of its power and full of other planets that act with contempt towards the little blue mot that claims to be the mother world. *Blind Alley* has already been mentioned before and is set in the early days of the Galactic Empire. It deals with the discovery of the only other intelligent race besides human beings in the galaxy who flees to the Magellan Clouds, away from “human protection.”

The Galactic Empire is one of the most appealing recurrent themes in Asimov's fiction books since it is the epitome of what humanity may accomplish once we decide to conquer the stars. This interstellar empire is modeled after the Roman Empire and is spread across the Milky Way galaxy with almost twenty-five million planets (there are no aliens in this empire, just humans). The capital is Trantor, a planet located in the center of the galaxy with a population of over forty billion people. The fall of the Galactic Empire is also reminiscent of the fall of the Roman Empire, but its fall is not the end of mankind since this event has already been predicted and contingencies taken to avoid the dire consequences of still-to-happen anarchy, and all thanks to the secret efforts of a man called Hari Seldon, a scientist, a psychohistorian.

The Foundations of a Larger Universe

If there is one book that defines Asimov that book would be *Foundation* (1951). *Foundation* is a collection of four short stories that tell us what happens after the fall of the empire, though the empire still exists, but is a languishing entity that has lost control of the outer planets, and worlds that exist in the periphery of the galaxy. Unable to exert power that far, the empire is slowly losing authority and the galaxy is sinking into a period of anarchy. A man called Sari Heldon is a mathematician who has created Psychohistory and foretold the fall of the empire years before it happened (Psychohistory is a fictional science in Asimov's universe that makes general predictions of the behavior of large groups, not individuals, like nations or galactic empires and uses elements from history, sociology, and statistics). Such a prediction was not welcome

by the emperor and his court, therefore, Seldon was banished to the most distant planet, a world called Terminus, where Seldon and his followers would settle down and create a plan to reduce the period of anarchy that would follow the disappearance of the Empire to only one millennium. The Foundation would preserve the best part of the human legacy and eventually would become an organization powerful enough to replace the defunct empire.

Foundation and Empire (1952) continues the story started in *Foundation.* It has two parts, in the first we see the Foundation already rising to power and confronting what is left of the Galactic Empire, but the Foundation is no match for the staggering military might of the imperial forces. Hari Seldon was long dead by then, but he also foretold that event and knew the outcome. The second part reveals the only element that acts as a flaw of Psychohistory: individuals. A being of extraordinary faculties called the Mule is slowly conquering the worlds that used to be part of the empire and is set on taking over the Foundation. The Mule is a mutant capable of subjugating others mentally to become their permanent servants and no one knows what he looks like exactly. Soon the Mule becomes the sole ruler of everything, and there is no one in the entire galaxy to stop his onslaught. In *Second Foundation* (1953), we learn there is a contingency plan to face off the threats that Psychohistory could not predict such as the one posed by the Mule. That other plan is called the Second Foundation, and the Mule already knows about them, but the mysterious Second Foundation acts briefly and faces the Mule. The Second Foundation also adheres to the Seldon Plan but works on developing mental abilities which is how they defeat

the Mule. They mind-control him and have him return to rule peacefully for the rest of his life and leave the Foundations alone. Curiously, the First Foundation leaders grow afraid that their behavior may be influenced by the Second Foundation and seek to end this new threat while they still can. Eventually, they find the whereabouts of this second foundation, armed with special devices to avoid mind control. The result of such an encounter is what will decide the future of the galaxy.

The protagonist of *Foundation's Edge* (1982) is a young politician called Golan Trevize who believes the Second Foundation is still around even though the First Foundation had killed off its secret fifty members as it is told at the end of *Second Foundation.* The same story reveals that the fifty people who were murdered were martyrs, people who willingly gave up their lives to preserve the ideals of the Seldon Plan. Trevize believes that the Seldon Plan should not be working after the damage caused by The Mule which indicates someone else is pulling the strings in secret, so the Plan continues as Seldon desired. Accompanied by a scholar named Janov Pelorat both men try to find Earth believing that would be the secret location of the Second foundation since there is no mention anywhere of the existence of such a planet. A leader of the Second Foundation, Stor Gendibal, finds out that someone else has been manipulating people in Trantor, their secret base, making alterations in their minds with a precision far superior to what the Second Foundation can do. Looking for answers, Gendibal also decided to find Earth suspicious of the mystery surrounding the location of that world. Instead, they all arrive on Gaia, a planet where everyone and everything is linked by one consciousness. It is the collective consciousness of Gaia

who has been the mastermind behind everything happening in the galaxy. Gaia is like an enormous living organism that wants a brighter future for mankind than only the creation of another empire or a similar institution. Gaia wants the whole collective of the galaxy to become Gaia as well, but because its purposes are noble is afraid of its own decision and asks Trevize to decide which path is the best: the one led by the First Foundation to a new empire, the one proposed by the Second foundation with an elite mind-controlling everyone, or that of Gaia's. Trevize makes his decision but is also uncertain if that is the right thing to do.

Foundation and Earth (1986) continue from the point it left us with in *Foundation's Edge* and Trevize is still uncertain about his decision. He still feels it is important to find Earth. The First Foundation and the Second Foundation leaders are no longer a problem so there is no one to interfere with Trevize's purpose. With added information, Trevize forms a new party with whom they have their share of adventures until eventually, they discover Earth, now a radioactive planet unable to sustain life. However, Trevize figures out that the answer may not be on Earth's satellite – the Moon. When he goes there he finds a secret location inside the satellite, a secret place where he meets R. Daneel Olivaw, one of the protagonists introduced in *The Caves of Steel.* It is Olivaw the one who has been guiding humanity to this moment and who was behind events such as Seldon's creation of the Foundation, The Mule's defeat, or Gaia's expansion. Olivaw also reveals that he is dying because his positronic brain can no longer operate at the rate required by all the functions that he has been performing all the millennia since he was Elijah Bailey's partner. In the end, Trevize did

the right thing by letting Gaia become one with the galaxy, for Psychohistory can only foresee the future behavior of what it can study and assess, but the potential threat of alien civilizations from other galaxies is another thing entirely.

Prelude to Foundation (1988) and *Forward the Foundation* (1993) are set in Trantor, in the time before the empire fell. They show the long path a young and hesitant Hari Seldon adopted to develop Psychohistory and later the plans for the instauration of the first Foundation and the secret Second Foundation. They are revealing stories that readers should have if they want to have a better understanding and a more precise image of that immense tapestry of Asimov. Still, other stories loosely connect with the Foundation novels and that serve to strengthen the storyline in unsuspected ways with the most important being *The End of Eternity* (1955).

An End and a Beginning

Although it is a self-contained book, *The End of Eternity* should also be considered part of Asimov's huge plan. It happens in a reality different from ours, in a place with no time because it exists outside time. That place is called Eternity, home of the Eternals, self-proclaimed guardians of human history.

The Eternals have taken up on their shoulders the task of protecting humanity from their own mistakes and ending wars and conflicts before they happen. They can travel through time and space of free will, but so cannot the advanced humans of the far future, a time not even the Eternals can interfere with because there is a barrier that keeps them from trespassing. The

future humans send a woman who contacts one of the Eternals, an executioner who is called like that because executioners are the ones among all Eternals in charge of changing reality directly. This woman called Noys reveals to Harlan that the Eternals' actions, instead of favoring humankind, have stagnated their development. Wars, while abominable, also produced some good things like technological growth which is basic for the development of any society.

The strength of humanity is based on the ability to overcome any challenge or disaster, but with the Eternals' intervention, there are no more challenges for humans. In the far future, the universe has been populated by other races but not humans. They arrived too late: there was no place for them. Without a purpose to continue, far-future humans languish and finally become extinct in a time beyond imagination. To keep that destiny from occurring, Andrew Harlan, the Executioner, and Noys travel to the past and make sure the equations to form Eternity are never discovered. Humanity then follows a different path that will eventually lead to the stars.

"The End of Eternity" does not provide a single moral, but it does provoke readers to consider a range of moral and ethical questions related to time manipulation, the value of individual lives, and the unpredictability of actions in a complex temporal landscape. It encourages critical thinking and reflection on these issues rather than offering a clear-cut lesson or message.

Asimov's Simple Approach to Science

The first book of the *Foundation* series was not just the tale of a galactic empire: it was the cornerstone of a vast construction that still awes readers. This galactic nation comprised of millions of worlds and trillions of humans spread across our galaxy was a concept that had never been attempted before and every subsequent story with oversized star kingdoms like *Dune* or *Star Wars* would not exist without it. When Asimov decided to explore the improbable dynamics of his wide interstellar civilization, he made it plausible through ideas that were sound and scientifically grounded. Not only did he establish the archetype for science fiction stories, but he also became the archetype of what a science fiction writer is supposed to be.

Asimov's fertile imagination was not his only attribute as a writer. His vast production also includes pure science. He authored books like *The Universe* (1966) and *Asimov's New Guide to Science* among many others, and he even published books that are distributed through every major division of the Dewey system of library classification. He got a Ph.D. at Columbia University and was a professor of Biochemistry at Boston University.

His classical clarity of expression gave the common reader the chance to learn about subjects that are too technical to approach, a quality that extends to his two hundred and sixty works. His name though, will always be first and more often associated with his seminal *Foundation/Empire* novels and very few could dispute his place as the most important science

fiction author of the XX century. Among those exceptional, few would be other authors, exceptional all of them, such as Larry Niven, Robert Heinlein, Ray Bradbury, Ursula K. Le Guin, and Arthur C. Clarke.

Arthur C. Clarke and The Overmind

Arthur C Clarke (1917-2008) is one of those writers that, along with Asimov and Heinlein, are called "The Big Three" Born in England in 1917, it was not until 1946 that he entered the science fiction field on a professional basis with a tale called *Loophole* (1946) police in the Astounding magazine of the same year. During World War II, he was a radar specialist for the Royal Air Force, becoming involved in the development of a defense radar system, and serving as an instructor in the nascent specialty. In 1945, after the war, he also published a technical article. *Extra-terrestrial Relays,* in which he described the basics for the use of artificial satellites in geostationary orbit, a work that earned him recognition. Clarke's laws were published in his non-fiction book *Profiles of the Future* (1962) with the most often cited being *Clarke's Third Law* which says: "All sufficiently advanced technology is indistinguishable from magic." Since 1956, he lived in Sri Lanka for his fascination with the culture of that country. Clarke died on March 19, 2008, in Colombo, the capital city of Sri Lanka) when he was ninety years old.

Clarke was considered another second-rate writer until he produced *Childhood's End* (1953) his best work, a story about humankind in the future that grows from as early as the Cold War in the fifties until a climax that sees human beings

evolving into something else.

In the late twentieth century, humans are about to begin their space age when suddenly giant spaceships come down over every major city in the world. Five years after their arrival, the extraterrestrials known as the Overlords have taken control of the entire world. One of them called Karellen oversees Earth and intervenes in subtle but effective ways. As a result, fifty years later, the world becomes a utopia, where there is no poverty, crimes, or wars because the Overlords have made significant changes and erased all traces of the old order. Eventually, the Overlords' secret agenda is revealed: they are controlled by a superior sentient being called the Overmind, a being with the power to assimilate races that have evolved sufficiently for that step to be taken. Karellen also reveals that the Overlords are the ones who enforce the Overmind's will and that human children, already exhibiting mental powers, are about to evolve and become one with the Overmind.

This story was published in the early fifties of the twentieth century and *Childhood's End* has not lost its popularity. Truly, this novel is essential to understanding Clarke's conception of the universe and the optimistic vision he had for the future of humanity with its infinite perspectives. However, if *Childhood's End* is his most important novel, it is not the most popular one. That place is reserved for *2001: A Space Odyssey* (1968) and its three sequels.

The First Evil Computer

It is in *2001, Space Odyssey* that Clarke introduces the "Superior Masters", spiritual alien life forms far more advanced than ours and self-appointed guardians of the universe. Clarke implies that without the intervention of these omnipotent beings, humankind would have never come to be or prospered which is why he chose human pre-history to begin this first odyssey. In 1999, a strange discovery was made: an electromagnetic disturbance, labeled Tycho Magnetic Anomaly One (TMA-1), was found in the moon crater called Tycho. A large black slab is the origin (at the beginning of this novel, we get to see a similar object appearing before primitive ancient humans and changing them somehow, propelling mankind to their next evolutionary stage). The black slab is believed to be the work of extraterrestrial intelligence, and TMA-1 emits a radio signal at Iapetus, one of Saturn's moons. In 2001, the *Discovery One* was sent to Iapetus. Dr. David Bowman and Dr. Frank Poole are the only humans aboard who are not in suspended animation like the rest of the crew of the *Discovery One*. They are assisted by HAL 9000, a sentient computer that suddenly starts malfunctioning and kills Dr. Poole and intends to kill Bowman and the rest of the crew by sending them out of the ship, but Bowman manages to survive and re-enters the *Discovery One* and after some struggle shuts down the computer. He contacts Earth and is instructed to continue the mission. On his arrival, Bowman finds an object identical in shape to TMA-1, but larger. The monolith opens and pulls Bowman to an unknown star system where he sees alien spaceships going on other routes. This is a binary star system home planet of the supreme intelligence that has been jumpstarting life throughout

the galaxy and perhaps the universe. Bowman is eventually transformed into an immortal being, a Star Child, who can live and travel in space and decides to return to Earth, the point in which the story ends.

In *2010,* in *Odyssey Two* (1982) the U.S. and Soviet Union (the USSR still existed when this story was written) sent a mission together on board a starship called *Leonov* to investigate the monolith in orbit around Jupiter, and to find out what happened to David Bowman. They go onboard the abandoned *Discovery One* still orbiting Jupiter and reactivate HAL. Suddenly the monolith appears near their starship, and Bowman comes out of it. Bowman works as an explorer for the beings who changed him and goes first to Earth and then Europa where there is another lifeform with potential to evolve. Bowman then announces that the mission must leave Jupiter in fifteen days. With HAL's assistance, the crew manages to leave only to see that there is a huge black formation on Jupiter's surface which heralds the transformation of the giant planet into a second sun, a smaller one, that will jumpstart the evolutionary process of the lifeforms existing in Europa. Humans are then given another warning: ALL THESE WORLDS ARE YOURS – EXCEPT EUROPA.

ATTEMPT NO LANDING THERE.

HAL now redeemed is changed, as Bowman was changed, and becomes Bowman's companion. The monolith will oversee Europa and this new sentient race to keep it safe from human intervention.

2061, Odyssey Three (1987) takes place sixty years after the events of *2001: A Space Odyssey*. At the end of the second novel, we witness the birth of a second sun called Lucifer. In *Odyssey Three*, we learn about the new set of circumstances created now that Jupiter has become a star. One consequence is that the moons that orbited the former planet have been changed completely and one of them, Europa, is an ocean and cloudy world, while Ganymede is being colonized by humans. Unsuccessfully, Mankind has several times tried to set foot on Europa, but the hidden influence of the alien monolith discovered during the events of *Odyssey Two* has kept them away. The problem is that the old moon harbors untold riches which causes human greed and thus they will never stop trying, Eventually, a group of explorers manages to set foot on Europa and after a series of trials gets to the treasure they were looking for: a remnant of the old planet, a gigantic chunk of diamond. In the meantime, Bowman has remained in his role of observer and representative of the beings who upgraded him, and when he sees the trespassers, he then contacts humans again and reveals that mankind has a deadline, a countdown of sorts, and that if within a thousand years, they do not prove themselves worthy, they will be terminated.

In *3001, The Final Odyssey* (1997) we find out that Frank Poole, the astronaut killed by HAL 9000 in *2001: A Space Odyssey* is still alive. Unusual conditions existing in the spot where he was killed kept his body in an unlikely stasis. His body is recovered and reanimated, and Poole awakens to a world that has progressed a thousand years. There are all sorts of technological advances that have in turn eliminated all types of crimes and most diseases. Mankind has achieved

the capacity to terraform other planets, and it is present in Venus and Ganymede, but also with all this progress has come a greater awareness of the role the alien monoliths have been playing in the development of mankind. Scientists tell Poole they are afraid that aliens may decide to end mankind since the monoliths are intelligent machines, but still only machines, and that they know the monoliths are also transmitters with the task of sending information back to the beings who sent them in the first place. The last transmission they had sent was in 2001 when Earth was still a world immersed in chaos quite different from the utopia they were living in, so the monolith creators may have decided to destroy them. According to the scientists' calculations, the monoliths were about to receive a response with new instructions precisely in 3001. They were right in their assumption. Poole is key in convincing Bowman and HAL to help humanity and they do so by using some of the deadliest weapons ever created by human minds.

This saga, by far the most popular written by Clarke, is also the epitome of his intricate and enigmatic storytelling. While the saga of the Odysseys doesn't offer a clear-cut moral in the traditional sense, the series explores complex themes and prompts readers to contemplate various ideas, and while it doesn't provide a conventional moral lesson, it offers in exchange a rich tapestry of themes and ideas that encourage readers to reflect on topics such as evolution, exploration, technology, cosmic significance, and existential meaning. The series invites readers to contemplate these concepts and draw their interpretations and lessons from the narratives.

Alien Invitations

The cosmic theme of supreme beings that exist beyond our solar system is touched again in *Rendezvous with Rama* (1973), then *Rama II* (1989), *The Garden of Rama* (1991) written with Gentry Lee and *Rama Revealed* (1993) also written with Gentry Lee. This saga is about huge alien starships passing by our solar system with a secret purpose that remains undisclosed until the end of the first novel. Rama, named after the Hindu god, is a huge cylindrical starship that appears in the vicinity of Jupiter in 2131. No one knows the reason for its appearance and therefore a starship is sent to approach the visitor and learn of its intentions. Rama does not react when it is contacted, nor when some members of the starship crew manage to get inside where they find an atmosphere that allows them to breathe. There are city-like constructions uninhabited within Rama, and beings, some artificial and some who are extraterrestrial beings that dwell in other parts of Rama and come from worlds that Rama passed by before entering our solar system. The crew members theorize that Rama is an invitation, an opportunity the Ramans extend to other civilizations to come meet them, and they have been invited. The cities are therefore places for them to live during the duration of the voyage, which is undoubtedly long and extensive. The crew members decide not to accept this invitation and leave Rama when the alien starship moves to the limits of the solar system to go to its unknown next destination.

In *Rama II,* decades later, a second Raman starship visits our system, and a second group gets inside this one which is bigger and more sophisticated. They do not find any trace of the Ramans, but instead, they meet aliens, some friendly,

but others not. They are staying for the duration of the trip, and accidentally some of the participants of that mission must remain there too. A number of the participants (aliens and humans) die and the survivors, alongside the aliens, travel to the Raman planet.

Garden of Rama begins nine months later, with the three surviving astronauts of the *Rama II* expedition still trapped in Rama II and going into deep space. During the trip, the only woman, Nicole Des Jardins, gives birth to five children, three of them with her male companion, Richard Wakefield, and the other two with Michael O'Toole, the other member of the trio. After a journey that lasts twelve years, they approach the star called Sirius, where the eight passengers are taken to the Raman Node, a Raman facility like Ellis Island where they are told they must go back to Earth to get two thousand more passengers to inhabit the section of Rama that the Ramans have destined for human beings. They accept and come back on board a third Raman ship with the required number of people, but some of them are shown to be reluctant to follow directions and create trouble for their purposes. It turns out that the human government deceived these other colonizers into believing they were going to Mars when their real purpose was to get rid of some undesirable people. As a result, there are revolts in the human colony and the story ends in a cliffhanger with Nicole's life at stake.

In *Rama Revealed* we find Nicole and her family fleeing to a safe section of Rama, away from the violent colonizers. There they contact other alien groups who are aware of the impending threat posed by the violent humans, and soon a

conflict ensues, one so terrible that the intelligence overseeing Rama intervenes to end the problem. Humans are separated into two groups and those who cannot stand living with aliens are segregated. In the end, humans arrive in Tau Ceti, another Raman Node where the Ramans finally reveal themselves and their true purpose: to populate the universe with races willing to live together harmoniously.

God's Many Names

Clarke was indeed a consummate novelist, but he also drafted astounding short stories that are now classics. In *The Nine Billion Names of God* (1953), Tibetan monks buy the most advanced computer to date to accomplish its centuries-long task of compiling the almost infinite names of God. Their purpose is to find God's true name, to call him, and thus bring the end to all existence. In *The Star* (1955), an expedition to a distant planet finds the ruins of a long-gone ancient civilization that was destroyed when its star became a supernova. After careful study, the members of the expedition discover with astonishment that the supernova appeared at the exact beginning of the first millennium, the time known as A.D., and was quite possibly visible from Earth and conclude that the supernova was the Star of Bethlehem.

While logical and intensely rational, Clarke was nevertheless open to innovative ideas and never afraid to play with new concepts. He was also incredibly careful when touching the religious aspect, as seen in *The Star* which does not feel like a religious story despite its plot. One could argue that in many ways his works aimed to contact the divine when

concocting stories that talked about the origin of humankind as seen in his *Odysseys,* but he leaves out that sense of awe that characterizes stories that center on the appearance of gods and demigods. He plays with the concept, but from a distance.

He was a seasoned storyteller, but some have labeled him as an unshowy writer whose prose was functional but not beautiful, and whose characterization was deemed rudimentary (Roberts, 2018). This last point may be true. Clarke was known for emphasizing the importance of the story events over character development, and sometimes we get to know very little about his characters' motivations, something entirely justified if that character is an extraterrestrial whose aura of mystery makes them more enticing, but the same could not be said about the hero or heroine with whom readers usually want to connect and understand. Science Fiction heroes in general tend to be morally strong and naturally curious, and their creators are content with that and that is a weak point when compared with other genres.

At the end of his life, Clarke was more willing to write sequels of his most important works such as *2001, Space Odyssey,* and *Rendezvous with Rama* than produce new and original material, a decision for which he was widely criticized. In particular, the sequels to *Rendezvous with Rama* did not receive great reviews and were even called "unnecessary." His dedicated fans think otherwise and claim that Clarke wanted to expand on the mythology he had created and had every right to do so. They also defend his writing style which was indeed simple yet elegant. Truly a close look at his production shows he had the habit of using metaphors and phrases or acronyms he

invented thus proving, as stated before, that he was not afraid of trying new things.

Even his life is a testimony that Clarke did not shy away from challenges. His contributions did not only extend to literature: he was also a famous humanitarian, an inventor, and a visionary and nowadays there is a foundation in his name. Clarke moved to Sri Lanka in 1956, because of his love for nature and diving and he would stay there for the rest of his life.

In 1988, Sir Arthur C. Clarke was diagnosed with post-polio syndrome and spent his last years in a wheelchair. Both, the United Kingdom, and Sri Lanka honored him in life. In 1988, he was conferred with knighthood for his astounding work, and in 2005 Sri Lanka awarded him Sri Lankabhimanya (The Pride of Sri Lanka) which is Sri Lanka's highest honor for a civilian.

Clarke passed away in Colombo, the capital city of Sri Lanka, in 2008.

Robert Heinlein, the Most Science-Oriented of the Big Three

Robert Anson Heinlein was born in Butler, Missouri in 1907. He became famous as a science fiction writer for works like *Starship Troopers* (1960), *Stranger in a Strange Land* (1962), and *The Moon is a Harsh Mistress* (1967). What made him different from Asimov and Clarke is his insistence on providing a scientific basis to his stories, a logical scientific structure that defined them. Another prominent characteristic of

his writing was his use of other areas of knowledge like politics, economics, sociology, business management, and genetics into the world of science fiction, and yet another recurring theme in his production is a subjacent questioning of modern social behavior. The societies he described in his stories had ideals that did not quite fit those of the society he grew up in, and some of them were, in his opinion, dangerous as when in one of his stories he predicted that nuclear weapons would turn out so deadly that many countries would refrain from using them in the face of imminent destruction of not only their opponents but also their own.

Starship Troopers is a military science fiction novel that introduces Juan "Johnny" Rico through his military career in the M.I. of Mobile Infantry that belongs to the Terran Federation, a world organization that solely rules the Earth in the future. At this time, humankind is engaged in an interplanetary war with a species of intelligent enormous arachnid-like beings, simply called Bugs. An arachnid attack annihilates the city of Buenos Aires, Rico's hometown, and Rico's mother gets killed in the attack. Rico is sent to Klendathu, the Bugs' home world, where the Terran army is defeated. Rico's ship is destroyed, and his unit is decimated, but he manages to survive. After his return, Rico is reassigned to a new unit and promoted to corporal, and later he is promoted again and leads a raid to capture a member of the arachnid elite, a brain-like being. Rico is sent to the officer school to obtain the rank of Second Lieutenant, and in command of the platoon where he first served is about to participate in a new attack on Klendathu which is where the story ends.

Stranger in a Strange Land is a compelling story that takes place on Earth after World War III where the political organization is different: there is a world government, but religions have gained even more presence and power than before. In this context, Earth sends the *Envoy* a starship to Mars, but mysteriously it disappears before landing. After twenty-five years, they send another spacecraft and the crew are successful in contacting the Martians and Valentine Michael Smith, the unsuspected survivor of the previous mission. Smith was born on the *Envoy* but raised by the Martians and is ordered to return with the new expedition to Earth. There Smith faces a series of challenges when he tries to get used to the weather conditions of Earth and the cultural realities of Earth people. Smith is not like any other human being and shows special abilities, intelligence, and powers that prove the Martians did a few more things to him than just raising him. Smith is studied and then set free. Smith studies human culture and begins a new church whose new members are trained so they can have similar abilities to those Smith possesses thus becoming Homo Superior. Followers of a rival cult eventually kill Smith, but it is shown he can exist in the afterlife from which he instructs his followers and even manages to take over the rival cult. There is a secret purpose behind Smith's efforts to upgrade humankind; should that not happen; Martians would destroy Earth as they destroyed the planet that later became the asteroid belt.

Heinlein also authored books with strong political messages and one of those was *The Moon Is a Harsh Mistress* about a human colony on the Moon. The colony produces food that then is transported to Earth and is overseen by a vast computer that one day becomes sentient. The computer is

called Mike by the engineer that sees for its well-functioning called Manny. Manny is incidentally inducted into a secret movement that wants to revolt against the Earth's rule over the Moon because they have made calculations that indicate the colony is about to suffer starvation when they run out of supplies, something that will happen if they continue sending food to Earth. Mike confirms this information and tells Manny and the members of the revolt that there is a chance to beat Earth should a conflict arise. Manny creates an avatar of sorts called Adam who becomes the leader of the revolution. Earth's government, concerned with the unrest on the moon sends war spacecraft and soldiers, however, the colony is prepared for combat thanks to Mike and eventually, the moon revolution wins, and Earth recognizes the colony as a new government. Sadly, Adam has disappeared because Mike has been damaged and is no longer sentient. Disappointed by the loss of Mike who he considered a friend, Manny moves away from politics and thinks about getting a position in the human colonies in the asteroid belt.

Though the novels mentioned above are all great works, none of them is as startling in their conception as *All You Zombies,* a short story written in 1959. This narrative begins with a young man talking to the narrator, known as the Bartender, in 1970. The two find extraordinary similitudes in their lives and become instant friends. The young man calls himself the Single Mother and reveals he authors stories for women in a magazine, a fact he explains by saying that he was originally a girl. Single Mother was an orphan who was seduced by an older man and left pregnant. When she gave birth to a child, a girl, doctors discovered that she also had male

organs and since giving birth had damaged her female organs, they left her only with her male organs. From then on Single Mother was no longer a woman, but a man. In the meantime, the baby is kidnapped, and she and her kidnapper are never seen again. The Bartender tells Single Mother he can help him take revenge on the man who is his baby's father and takes him to a time machine of his own. They travel to 1963 and drop him there where Single Mother meets himself when he was a still a girl and has sex with his past self. The Bartender travels some months after that event, kidnaps the baby, travels back in time again, and leaves the baby girl in an orphanage. He returns to Single Mother after he has impregnated himself and tells him that they are the same: the baby girl is the orphan girl who then becomes Single Mother, the Bartender takes Single Mother to the Time Bureau, a secret organization that exists to oversee time, and leaves his younger self there closing the circle of his creation by recruiting his younger self. Finally, the Bartender returns to his bar, closes it down, and goes to his base where he lies down to think about what he has done by becoming his grandfather, father, mother, child, and grandchild as he contemplates the scar in his abdomen, the one doctors opened to help her give birth to herself.

Heinlein's influence as a writer began when he published his first work *Lifeline* (1939) and is still felt today with some of his works have crossed over to other media such as *Starship Troopers* which ended up being made into three movies that enjoyed distinct levels of success. Mostly, he is revered as one of the foundational figures of modern science fiction and his works are the result of his intellectual curiosity, his willingness to question life and society through his novels,

an aspect of his production that sometimes made him clash against the views of other important writers of his time like Isaac Asimov.

Those interesting views are easily detected in *Starship Troopers*, where the perils of militarism and its implications are denounced with subtlety, or in *Stranger in a Strange Land* which focuses on positions toward religion and sexuality that were already important in the world of his time. *The Moon is a Harsh Mistress* introduces us to the veiled thirst for power that comes up in times of need and the changes human society could endure to continue like the adoption of polyandry.

Heinlein had this strong belief that a story should have a purpose and make sense to the reader. His storytelling was not only delightful but also compelling and embraced the ideals of science fiction. He believed that an individual could succeed if they believed that success was possible, and he did so as he speculated on the effects of space travel on human culture and exposed all those themes he considered paramount.

Robert A. Heinlein was steadfast in his conviction that a story should possess both purpose and coherence, providing readers with not only a delightful narrative but also a thought-provoking exploration of the core ideals that underlie science fiction. In his storytelling, he seamlessly blended the allure of fiction with the rigor of scientific and philosophical inquiry.

Heinlein's narrative prowess extended beyond mere entertainment; it was compelling in its capacity to engage readers at multiple levels. His works not only captured the imagination but also encouraged contemplation on profound

subjects. He believed that individuals could achieve success if they held a belief in the attainability of that success, an ethos that resonated throughout his stories.

This seminal author died of heart failure in California in 1988.

Simak and the Sociological Aspect of Alien Encounters

Not all science fiction writers aim to awe their audiences with the grandiosity of encounters with alien life forms or lost civilizations. There are those whose focus tends to be a bit different, such as Clifford R. Simak (1904-1988) whose focus was on rural and small-town settings. Unlike many other science fiction writers of his time, whose narratives dwell on futuristic cities and advanced technology, Simak's stories often take place in rural areas and small towns, which provides a unique perspective on how humanity might interact with technology and extraterrestrial life.

Simak was an American science fiction writer who was active during the Golden Age of Science Fiction, known for his exploration of the relationship between humanity and technology, as well as his focus on small-town and rural settings. He wrote over thirty novels and many short stories during his career and was a recipient of numerous awards and honors.

Some of Simak's most notable works include *City* (1952), a novel that explores the relationship between humanity

and the machines it has created, and *Way Station* (1963), which won the Hugo Award for Best Novel. The novel depicts the story of a man who has been chosen as caretaker of a way station for extraterrestrial travelers and explores themes of loneliness and isolation.

Another one of his famous works is *The Visitors* (1953), a short story about the arrival of a group of aliens to a small town, and the impact their presence has on the townspeople. The story explores themes of communication, understanding, and the consequences of first contact with extraterrestrial life.

Simak's writing is known for its simplicity and clarity, and his stories often focus on the human condition and our relationship to the world around us. His work continues to be admired by readers and is a classic in the science fiction genre. Another aspect that sets him apart is his exploration of human emotions, values, and the human condition. He often presents stories that are thought-provoking and introspective, as well as a deep exploration of the ethics and morality of advanced technology. Simak's use of rural and small-town settings, as well as his focus on the human experience, adds a unique and refreshing perspective to the science fiction genre. His works continue to be admired by readers and are a classic in the science fiction genre.

Larry Niven's Ring World

Larry Niven (born 1938) is an American science fiction writer known for his hard science fiction and his "Known Space" series of novels and short stories. Niven's writing is

characterized by its attention to scientific accuracy and detail, as well as its exploration of complex scientific concepts such as physics, mathematics, and astronomy. He has won multiple Hugo and Nebula awards and is considered one of the most influential science fiction writers of the last century.

One of Niven's most famous works is his "Known Space" series, which includes novels such as "Ringworld" (1970), "The Mote in God's Eye" (1974), and "The Ringworld Engineers" (1980). This series is set in a future human-inhabited galaxy and explores themes of exploration, first contact, and the implications of advanced technology. The series is known for its attention to scientific detail and its exploration of complex scientific concepts such as faster-than-light travel and artificial intelligence.

Another notable work of Niven is "Neutron Star" (1968) a collection of six short stories that take place in his Known Space universe, it explores various scientific concepts such as black holes, neutron stars, and artificial intelligence. In "Neutron Star," Larry Niven highlights his talent for marrying scientific rigor with imaginative storytelling, creating a collection that continues to captivate readers and serves as a testament to the enduring appeal of science fiction that challenges our understanding of the universe and its mysteries.

Niven's writing is known for its scientific accuracy and mindfulness and its exploration of complex scientific concepts. He is also known for his exploration of the impact of advanced technology on humanity, as well as his use of thought-provoking plots and characters. His work continues to be admired by readers and is a classic in the science fiction genre.

Ray Bradbury: A Martian Chronicler

We could say that Ray Douglas Bradbury constitutes an anomaly in the science fiction universe. He was never one of those writers who never dared to overstep the limits established by science and he did not mind pulling romantic strings, either. If he felt the story needed this or that effect, he just went with it which explains why his most recognizable book, *The Martian Chronicles* (1950), is full of themes that are not commonly touched on in science fiction such as nostalgia for example.

What was different in this writer is that he distrusted science. His science fiction production was not as extensive as Asimov's and Clarke's. He preferred to write drama, poetry, conventional literature, and even screenplays, but the sci-fi tales he wrote made up for the rest and the material for what he became well-known. Bradbury started writing in the forties when television was not as widespread as it is today. Radio was the king of media and the few sci-fi shows on air were merely stories that aimed for occasional amusement. The only good science fiction available at the time was in Astounding Magazine directed by John Campbell Jr, and the writers working for him were brilliant, dazzled everyone at that time, and they still do. Only Ray Bradbury was not among them. Bradbury sent some submissions in the hope of being published, but Cambell found Bradbury's style weird and incoherent. In Cambell's opinion, Bradbury's characters were eccentric, his tone nostalgic, and his plot too mysterious and fantastic. He thought he could not get anything out of him and bought just two of his stories, Ray tried to publish elsewhere.

Such a thing would have meant certain death for any other sci-fi writer, but that did not happen to Bradbury. He was what the others were not. He was different, more accessible. With just a few words he could create moods, and in little time, he gained a devoted audience. The world of Science Fiction was perplexed. People who did not read science fiction regularly found they could read Bradbury. Those who found science fiction conventions different, and weird, and knew little about science fiction, seemed to think Bradbury was the greatest exponent of the genre. When a compilation of his short stories focused on Mars was published with the title *The Martian Chronicles*, it became an instant success, more so than such prime pieces as Asimov's *Pebble in the Sky* and Max Erlich's *Big Eye.* That was indeed an unexpected event.

The Martian Chronicles is a series of short stories that lack a fixed linear plot thread, but the contextual and temporal reference is the same in all of them: it narrates the arrival on the red planet and its colonization by humans. Bradbury's Mars was based on a version of planet Earth from the nineteenth century. He completely ignored, or chose to ignore, what was known about Mars when he wrote those tales. It was the story he chose to tell that caught such attention. This time Mars had the role of a planet invaded by terrestrials in a process that reminisced the colonization of America. Even the Martians were described as having brownish skin just like Native Americans, and just like them, the Martians were becoming extinct because they had caught human contagious diseases (which we now know is a biological impossibility).

Bradbury's success explains why Science Fiction lost him. Soon, he entered the orbit of Hollywood. One of his first works was to write the screenplay for John Houston's Moby Dick. Then he wrote some for other shows of fantasy and suspense such as Alfred Hitchcock Presents and The Twilight Zone, and he also published in magazines ranging from *Audubon Magazine* to the *New Yorker*. Besides, he was the author of around five hundred poems, plays, and "regular" novels. He even hosted his TV show.

If Bradbury had not written anything else besides *The Martian Chronicles*, those nostalgic and weird tales would have been (and are) more than enough to inscribe his name in the history of Science Fiction forever.

Other Voices

Science Fiction has continued to thrive in recent years, with an abundance of talented writers from around the world producing works that are both thought- provoking and entertaining. The influence of science fiction can be seen in various forms of media, including TV, movies, radio, and social networks. The popularity of iconic franchises such as Star Wars and Star Trek, as well as films like Jurassic Park, are examples of the genre's widespread influence.

In addition to the authors mentioned in the book, other notable science fiction writers have made significant contributions to the genre. Some of these writers include:

Michael Crichton (1942-2008): Michael Crichton was a significant figure in science fiction literature due to his ability to blend science fiction elements with thrilling narratives. His works, such as "Jurassic Park" (1990), "The Andromeda Strain" (1969), and "Congo" (1980), have been successfully adapted into popular films. Crichton's relevance lies in his capacity to engage readers with scientific concepts and ethical dilemmas, often warning about the unintended consequences of advanced technology.

Ursula K. Le Guin (1929-2018): Ursula K. Le Guin was a versatile writer who made substantial contributions to science fiction. She is best known for her thought- provoking works such as "The Left Hand of Darkness" (1969), "The Dispossessed" (1974), and "The Earthsea Cycle" (1968-2001). Le Guin's relevance stems from her ability to explore complex social and anthropological themes through science fiction, challenging traditional gender roles and societal norms.

Kurt Vonnegut (1922-2007): Kurt Vonnegut was a satirist who used science fiction elements to address social and political issues. His novels like "Slaughterhouse- Five" (1969), "Cat's Cradle" (1963), and "Player Piano" (1952) are considered classics in the genre. Vonnegut's relevance lies in his unique blend of satire and science fiction, offering a lens through which readers can reflect on the absurdities of human behavior and the consequences of war.

Clifford D. Simak (1904-1988): Clifford D. Simak was known for his optimistic tone in science fiction. He often explored themes related to human nature and the relationship between humans and technology in his numerous short stories

and novels. His relevance to the genre is marked by his ability to convey a sense of wonder and hope in a genre often associated with dystopian or cautionary tales.

N.K. Jemisin (1972-present): N.K. Jemisin is a groundbreaking author known for her imaginative and thought-provoking science fiction and fantasy works. Her "Broken Earth" trilogy, which includes "The Fifth Season" (2015), "The Obelisk Gate" (2016), and "The Stone Sky" (2017), stands out for its exploration of social issues, powerful world-building, and innovative narrative structure. Jemisin has received multiple Hugo Awards, making her the first author to win the Best Novel Hugo three years in a row.

Liu Cixin (1963-present): Liu Cixin, a Chinese author, has gained international acclaim for his "Remembrance of Earth's Past" trilogy, with the first book, "The Three- Body Problem" (2008), winning the Hugo Award for Best Novel. Liu's works are notable for their incorporation of hard science and their unique perspective, offering a bridge between Chinese culture and the broader science fiction community.

Ann Leckie (1966-present): Ann Leckie's debut novel, "Ancillary Justice" (2013), marked a significant contribution to the genre, winning the Hugo, Nebula, and Arthur C. Clarke Awards. What makes Leckie's work outstanding is her exploration of gender and identity in a far-future, spacefaring society, as well as her use of a non- binary artificial intelligence narrator.

Andy Weir (1972-present): Andy Weir gained fame with his debut novel, "The Martian" (2011), which was later

adapted into a successful film. Weir's works are known for their attention to scientific detail and problem-solving, making complex scientific concepts accessible to a broader audience.

Becky Chambers (1985-present): Becky Chambers is praised for her character- driven science fiction, particularly in her "Wayfarers" series, which includes "The Long Way to a Small, Angry Planet" (2014). Her works focus on diverse and well-developed characters and explore themes of inclusivity and empathy in a futuristic, and also spacefaring context.

Martha Wells (1964-present): Martha Wells' "Murderbot Diaries" series, beginning with "All Systems Red" (2017), has captivated readers with its relatable and introspective AI protagonist, known as Murderbot. Her work explores themes of identity, autonomy, and the blurred lines between human and machine.

George R.R. Martin (1948-present): George R.R. Martin, best known for his magnificent fantasy series "A Song of Ice and Fire," has also made significant contributions to the world of science fiction. His science fiction works, such as "Tuf Voyaging" (1986) and the "Thousand Worlds" series, highlight his skill in creating complex and morally nuanced narratives within the science fiction realm. Martin's ability to construct vivid worlds, multi-dimensional and captivating characters, and storylines steeped in political intrigue and ethical dilemmas, pushes the boundaries of the genre. He masterfully weaves intricate tales that challenge readers to ponder not only the implications of advanced technology but also the intricacies of human nature, power dynamics, and ethical decision-making.

Neil Gaiman (1960-present): Renowned author Neil Gaiman has made a name for himself as a versatile writer who has mastered multiple genres, including science fiction. His contributions to the genre are unmistakable, with works like "Neverwhere" (1996), "The Sandman" series (1989-1996), and "American Gods" (2001) showcasing his unique blend of science fiction concepts and fantastical elements. Gaiman's writing often explores the blurred lines between reality and the supernatural, delving into themes of mythology, gods, and the interconnectedness of worlds. With his captivating storytelling and vivid imagination, Gaiman pushes the boundaries of traditional science fiction, inviting readers to ponder the human condition, belief systems, and the nature of existence through his thought-provoking narratives.

These writers are relevant to Science Fiction because they have made significant contributions to the genre through their unique storytelling approaches, exploration of complex themes, and their impact on popular culture. Their works continue to be enjoyed by readers and have greatly influenced the development of Science Fiction.

Science Fiction and TEFL, a Most Likely Connection

The symbiosis between TEFL (Teaching English as a Foreign Language) and Science Fiction is profound and multi-dimensional. Both domains share a fundamental curiosity, constantly pushing boundaries to explore the unknown, expand our understanding of the world, and challenge our established beliefs. TEFL practitioners, in their quest to engage and inspire

learners, can find a treasure trove of ideas and narratives in science fiction that kindle curiosity and ignite the flames of imagination.

Science Fiction serves as a versatile tool in the TEFL classroom. Educators can employ science fiction stories to introduce new vocabulary, grammar structures, and cultural concepts. Moreover, it offers a unique opportunity to stimulate critical thinking in students, encouraging them to ponder the potential consequences of scientific and technological advancements in our ever-evolving world.

Beyond its captivating and thought-provoking content, science fiction can significantly bolster language acquisition. The genre often delves into intricate ideas and concepts, providing fertile ground for expanding students' vocabulary and enhancing their ability to articulate complex notions with clarity and precision. Furthermore, the characters and settings found in Science Fiction nurture intercultural awareness, improving students' communication skills with individuals from diverse backgrounds.

The integration of science fiction in the TEFL classroom is limited only by the teacher's imagination. By doing so, educators can cultivate a more engaging and stimulating learning environment, fostering language proficiency and a deeper comprehension of the world. Looking ahead, the interplay between TEFL and science fiction is poised to grow even more robust. In an increasingly interconnected world where technology advances at breakneck speed, effective communication, and cross- cultural understanding become ever more essential. TEFL practitioners who harness the power

of science fiction in their teaching will be well-prepared to meet the challenges of the 21st century.


5

Future TEFL Teachers and Their Perceptions of Science Fiction

Abstract and keywords

The use of Science Fiction (SF) in Teaching English as a Foreign Language (TEFL) has gained increasing traction due to its potential to boost student engagement and language skills. However, research exploring EFL teachers' perceptions and experiences with utilizing SF for reading and writing instruction remains scarce. This study aims to address this gap by investigating the viewpoints of 63 prospective university students or novice EFL teachers through a ten-question survey. The study specifically delves into their familiarity with SF and current practices of using it in the classroom, perceived benefits and challenges associated with utilizing SF for literacy development, preferences for specific SF materials and pedagogical strategies, and level of interest and readiness in implementing SF-based activities. The findings reveal positive teacher attitudes toward SF's potential to stimulate motivation, critical thinking, and creativity in reading and writing instruction. However, concerns regarding text complexity,

cultural relevance, and teacher preparedness highlight the need for tailored support and resources. This study underscores the importance of addressing potential challenges and equipping teachers with effective strategies to maximize the learning benefits of integrating SF into diverse EFL classroom contexts.

Keywords: EFL, Science Fiction, Reading, Writing, Teacher Perceptions, Motivation

Resumen

El uso de la Ciencia Ficción (CF) en la enseñanza del inglés como lengua extranjera (EFL) ha ganado un creciente interés debido a su potencial para aumentar la participación de los estudiantes y desarrollar sus habilidades lingüísticas. Sin embargo, la investigación que explora las percepciones y experiencias de los profesores de EFL en la utilización de la CF para la enseñanza de la lectura y la escritura aún es escasa. Este estudio pretende subsanar esta carencia investigando los puntos de vista de 63 futuros estudiantes universitarios o profesores noveles de EFL a través de una encuesta de diez preguntas. El estudio profundiza específicamente en su familiaridad con la CF y las prácticas actuales de uso en el aula, los beneficios y desafíos percibidos asociados a la utilización de la CF para el desarrollo de la alfabetización, las preferencias por materiales y estrategias pedagógicas específicas de la CF, y el nivel de interés y preparación para implementar actividades basadas en la CF. Los resultados revelan actitudes positivas de los profesores hacia el potencial de la CF para estimular la motivación, el pensamiento crítico y la creatividad en la enseñanza de la lectura y la escritura. Sin embargo, las preocupaciones relacionadas con

la complejidad del texto, la relevancia cultural y la preparación de los profesores ponen de manifiesto la necesidad de un apoyo y recursos específicos. Este estudio subraya la importancia de abordar los desafíos potenciales y dotar a los profesores de estrategia para maximizar los beneficios del aprendizaje de la integración de la CF en diversos contextos de aula de EFL.

Palabras clave: EFL, Ciencia Ficción, Lectura, Escritura, Percepciones del profesor, Motivación

Introduction to a Research Project

The use of Science Fiction (SF) in Teaching English as a Foreign Language (TEFL) is not a novel or implausible idea, as it has been shown to foster the interest and motivation of second language (L2) learners (Smith, 2023). However, the success of SF in TEFL also hinges on other factors, such as the teachers' affinity and enthusiasm for the genre (Richards & Schmidt, 2002). Therefore, it is crucial to investigate the teachers' views and attitudes toward integrating SF into the TEFL classroom (Chamot & O'Grady, 2013).

To conduct the research for this project, a ten-question survey was administered to 63 prospective university students or novice EFL teachers. The survey aimed to assess the teachers' knowledge of SF, its potential application, and its advantages for their teaching practice (Richards & Schmidt, 2002). This section endeavors to delve into the nuanced relationship between SF and language learning, seeking to uncover insights and perspectives through an insightful survey conducted among a diverse group of participants. At the heart of this exploration

lies a comprehensive survey designed to elicit perceptions, experiences, and preferences regarding the integration of SF into TEFL. The survey was crafted to gauge the familiarity of respondents with SF materials, their encounters with them in language learning contexts, and their perceived benefits and challenges in utilizing SF materials for language acquisition (Chamot & O'Grady, 2013).

The participants were invited to share their thoughts, drawing from personal experiences and professional insights, thus offering a multi-dimensional view of the subject matter. The survey sought to uncover valuable insights into aspects like the extent of participants' familiarity with SF materials and previous encounters with SF in language learning scenarios, perceived benefits and challenges associated with using SF in TEFL, preferences for types of SF materials deemed effective for language acquisition, ranking of language skills perceived to be enhanced through engagement with SF, and interest and readiness for implementing SF in language learning contexts.

Central to the survey's essence was the emphasis on capturing diverse perspectives. Each response contributes to a mosaic of viewpoints, allowing for a holistic understanding of how SF is perceived and envisaged within the realm of language education. The forthcoming sections delve into a comprehensive analysis of the survey findings, offering valuable insights into the landscape of integrating SF into TEFL. Through this survey-driven exploration, we endeavor to shed light on the potential, challenges, and diverse perspectives surrounding this innovative approach to language learning.

Review of the Literature

The integration of Science Fiction (SF) in Teaching English as a Foreign Language (TEFL) has gained traction in recent years, fueled by its potential to ignite motivation, foster critical thinking, and enhance language skills. However, successful implementation hinges on understanding teachers' perceptions and experiences towards this innovative approach. This review delves into existing research to explore EFL teachers' views on utilizing SF for reading and writing instruction.

There are several potential benefits of SF for developing language skills and fostering a positive learning environment.

Motivating and engaging learners: SF's captivating narratives, imaginative settings, and relatable characters can spark curiosity and encourage active participation in reading and writing activities (Smith, 2023; Chamot & O'Grady, 2013). Studies demonstrate increased motivation and enjoyment among learners exposed to SF-based materials (Graves, 2000; Kim, 2012).

Developing critical thinking and analysis: SF often presents complex plots, moral dilemmas, and social commentary, inviting learners to think critically about the text, analyze information, and draw connections between fictional worlds and real-life issues (Richards & Schmidt, 2002; Mohan, 1993). This engagement with complex narratives fosters valuable analytical skills.

Expanding vocabulary and language skills: SF

introduces specialized vocabulary and diverse writing styles, pushing learners to broaden their lexicon and experiment with different textual structures (Hampsten, 1993; Graves, 2000). This exposure enriches their linguistic repertoire and enhances their ability to navigate varied writing styles.

Promoting creativity and imagination: The fantastical setting and boundless possibilities of SF provide a perfect platform for creative expression. Learners can engage in imaginative writing, construct their narratives, and experiment with different genres (Applebee, 1996; Routman, 2005). This fosters creativity and encourages the exploration of various writing forms.

Despite the documented benefits, research on EFL teachers' perceptions of SF remains relatively limited. Existing studies suggest a generally positive attitude toward its potential, with teachers acknowledging its ability to boost motivation, critical thinking, and creativity (Graves, 2000; Kim, 2012). However, some also express concerns about potential challenges, such as:

Complexity of SF texts: Teachers may grapple with the suitability of challenging narratives and specialized vocabulary for specific learner levels (Chamot & O'Grady, 2013; Mohan, 1993).

Cultural relevance: Ensuring that SF's cultural references and themes resonate with EFL learners from diverse backgrounds can pose challenges (Graves, 2000; Kim, 2012).

Teacher preparedness and confidence: Integrating a new

pedagogical approach often requires additional training and resources, which can raise concerns for teachers less familiar with or confident in teaching SF (Chamot & O'Grady, 2013; Mohan, 1993).

The evolving use of SF in TEFL necessitates a deeper understanding of EFL teachers' perceptions and experiences with this innovative approach. Your article, "EFL Teachers' Perceptions of the Use of Science Fiction to Teach Reading & Writing," aims to fill a crucial gap in this area by specifically investigating their perspectives on utilizing SF for literacy development. By uncovering teachers' concerns, preferences, and readiness, your research can provide valuable guidance for maximizing the potential of SF in the TEFL classroom. This, in turn, can empower teachers to create engaging and effective learning experiences that not only enhance students' reading and writing skills but also spark their imaginations and broaden their understanding of the world.

Methodology and Results

This project began with an extensive review of literary works and historical analysis to trace the evolution and impact of Science Fiction on language education. To identify seminal works and influential authors within the realm of Science Fiction, criteria were established focusing on their contributions to language learning and their relevance in the educational context. Scholarly databases like Google Scholar, and reputable literary sources like the Smithsonian Libraries (https://library.si.edu/books-online) were consulted to gather historical insights and scholarly discourse on the interplay

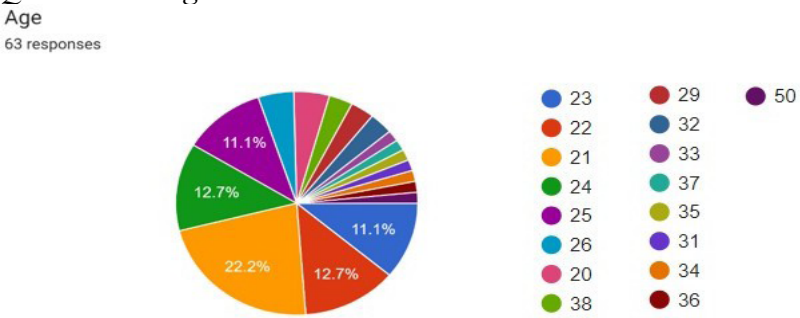
between Science Fiction and language education.

A structured survey with a diverse range of questions (11) was formulated to solicit participant perspectives on the integration of Science Fiction into language learning, exploring familiarity, preferences, and perceived benefits. The responses were collected and analyzed to derive thematic patterns, preferences, and consensus regarding the integration of Science Fiction into language education.

The results for each question are displayed below, each with its corresponding figure. The figures were designed by Google Forms, the services of which were also used to design and then send the survey to all participants. Questions 5, 6, 7, 8, and 9 are accompanied not only by figures but tables (designed by the researchers) to allow potential readers a more comprehensive view of the data.

Figure 1

Question 1 - Age



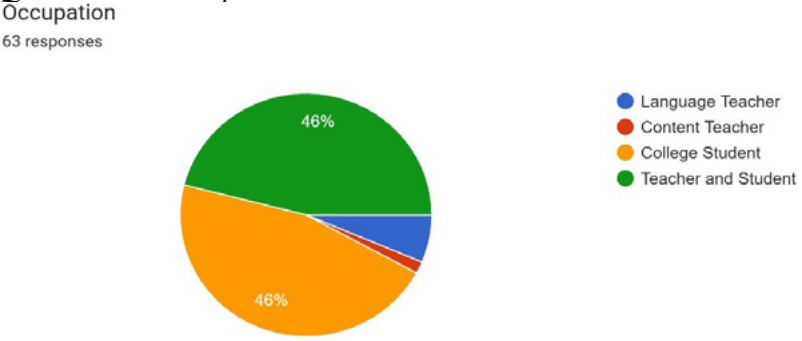
The distribution of participants according to their age, from the youngest to the oldest, can be seen in the list below:

20 years old: 3 responders	33 years old: 1 res
23 years old: 7 responders	34 years old: 1 res
24 years old: 8 responders	35 years old: 1 res
25 years old: 7 responders	36 years old: 1 res
26 years old: 3 responders	37 years old: 1 res
29 years old: 2 responders	38 years old: 2 res
31 years old: 1 responder	50 years old: 1 res

This distribution shows a range of ages, with most responders falling within the younger adult demographic (in their early to mid-20s), while there's also representation across various age groups, including a few responders in their late 20s and beyond, indicating a diverse pool of perspectives on the topic.

Figure 2

Question 2 -Occupation



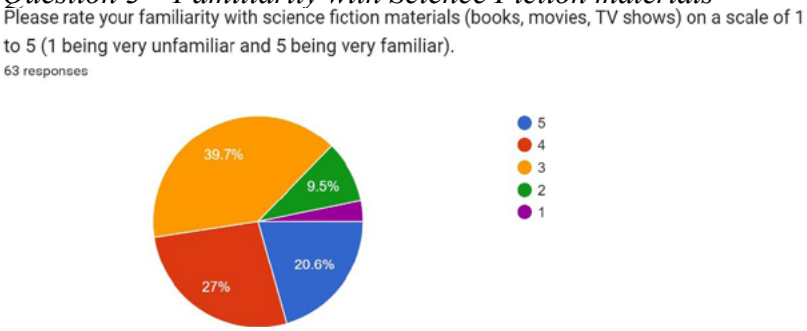
29 participants identified themselves as college students, 29 indicated they were teachers and students, there were 4 language teachers and 1 content teacher.

It seems like a significant number of people who took part in the survey are college students and those who identify

themselves as both teachers and students. The survey also includes responses from language teachers and a participant who identified as a content teacher, indicating a diverse range of backgrounds and roles.

Figure 3

Question 3 – Familiarity with Science Fiction materials



This was a rating question with the following breakdown:
Rating 1 (Very unfamiliar): 2 participants

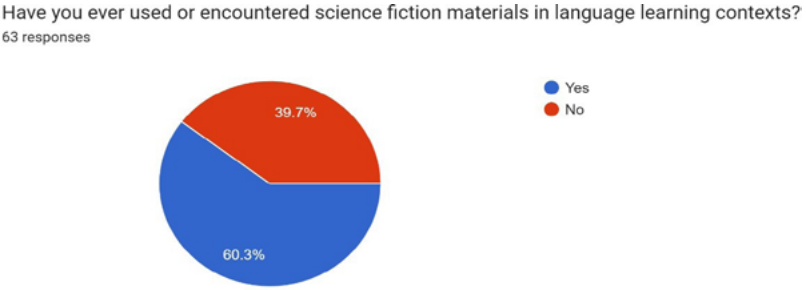
Rating 2: 6 participants
Rating 3: 25 participants
Rating 4: 25 participants
Rating 5 (Very familiar): 13 participants

The responses indicate a diverse spectrum of familiarity with Science Fiction materials among the participants. While a considerable number reported moderate familiarity (ratings 3 and 4), there's representation at both ends of the scale, with some participants indicating high familiarity (rating 5) and a few reporting lower familiarity (ratings 1 and 2). This variety in familiarity levels could offer a broad range of perspectives

on the integration of science fiction into TEFL.

Figure 4

Question 4 – Previous Experience with Science Fiction in TEFL



38 participants answered Yes and the remaining 25 answered No.

Out of all the participants surveyed, a total of 38 respondents reported that they have used or come across science fiction materials in language learning contexts. This indicates a considerable level of exposure or familiarity with integrating science fiction into language education. However, the remaining respondents stated that they have not encountered science fiction materials in language learning contexts. This diversity in responses provides various perspectives on the subject matter for the survey analysis.

Figure 5

Question 5 – Benefit of Language Learners

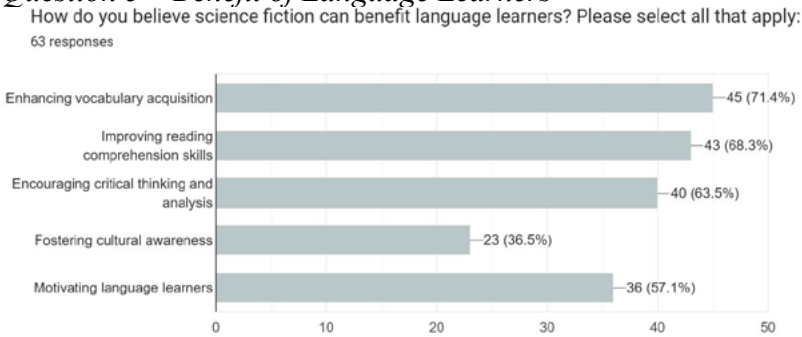


Table 1

Participants' choices in detail

Enhancing vocabulary acquisition Improving reading comprehension skills Encouraging critical thinking and analysis Fostering cultural awareness Motivating language learners	(10 responders)
Enhancing vocabulary acquisition Improving reading comprehension skills Encouraging critical thinking and analysis Motivating language learners	(5 responders)
Enhancing vocabulary acquisition Improving reading comprehension skills Fostering cultural awareness Motivating language learners	(3 responders)
Enhancing vocabulary acquisition Encouraging critical thinking and analysis Fostering cultural awareness Motivating language learners	(1 responder)

Enhancing vocabulary acquisition Improving reading comprehension skills Encouraging critical thinking and analysis	(7 responders)
Enhancing vocabulary acquisition Improving reading comprehension skills Fostering cultural awareness	(1 responder)
Enhancing vocabulary acquisition Improving reading comprehension skills	(5 responders)

Motivating language learners	
Enhancing vocabulary acquisition Encouraging critical thinking and analysis Fostering cultural awareness	(1 responder)
Enhancing vocabulary acquisition Encouraging critical thinking and analysis Motivating language learners	(3 responders)
Enhancing vocabulary acquisition Fostering cultural awareness Motivating language learners	(1 responder)
Improving reading comprehension skills Encouraging critical thinking and analysis Motivating language learners	(4 responders)
Encouraging critical thinking and analysis Fostering cultural awareness Motivating language learners	(1 response)
Enhancing vocabulary acquisition Improving reading comprehension skills	(2 responses)

Enhancing vocabulary acquisition Encouraging critical thinking and analysis	(1 response)
Enhancing vocabulary acquisition Fostering cultural awareness	(2 responses)
Improving reading comprehension skills Encouraging critical thinking and analysis	(3 responses)
Improving reading comprehension skills Fostering cultural awareness	(1 response)
Encouraging critical thinking and analysis	(2 responses)

Motivating language learners	
Enhancing vocabulary acquisition	(3 responses)
Improving reading comprehension skills	(2 responses)
Encouraging critical thinking and analysis	(2 responses)
Fostering cultural awareness	(2 responses)
Motivating language learners	(1 response)

The diverse combinations of selected benefits showcase a consensus among respondents regarding the several advantages of integrating science fiction into language education. Vocabulary acquisition, reading comprehension, critical thinking, cultural awareness, and motivation were all widely acknowledged as beneficial aspects of using Science Fiction in language learning contexts.

Figure **6**

Question 6 – Challenges when using Science Fiction combined with *TEFL*

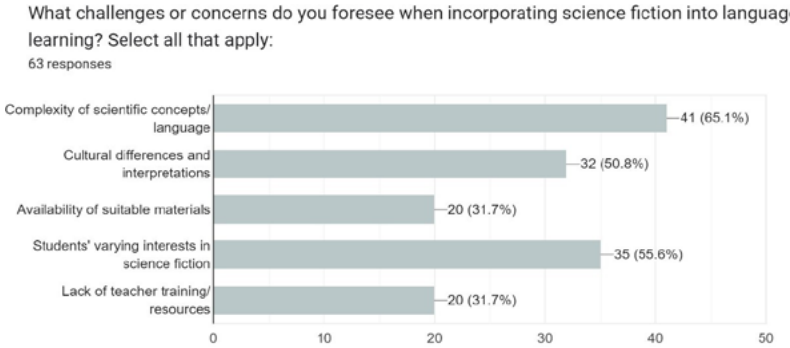


Table 2

*Participants' choices in detail*Complexity of scientific concepts/ languages Cultural differences and interpretations Availability of suitable materials Students' varying interests in science fiction Lack of teacher training/ resources	(3 responses)
Complexity of scientific concepts/ language Cultural differences and interpretations Availability of suitable materials Lack of teacher training/resources	(1 response)

Cultural differences and interpretations Availability of suitable materials Students' varying interests in science fiction Lack of teacher training/ resources	(1 response)
Complexity of scientific concepts/ language Cultural differences and interpretations Availability of suitable materials	(1 response)
Complexity of scientific concepts/ language Cultural differences and interpretations Students' varying interests in science fiction	(7 responses)
Complexity of scientific concepts/ language Cultural differences and interpretations Lack of teacher training/ resources	(2 responses)
Complexity of scientific concepts/ language Availability of suitable materials Students' varying interests in science fiction	(5 responses)
Complexity of scientific concepts/ language Availability of suitable materials Lack of teacher training/resources	(2 responses)

Complexity of scientific concepts/ language Students' varying interests in science fiction Lack of teacher training/resources	(4 responses)
Cultural differences and interpretations Students' varying interests in science fiction Lack of teacher training/resources	(1 response)
Complexity of scientific concepts/language Cultural differences and interpretations	(6 responses)
Complexity of scientific concepts/language Availability of suitable materials	(2 responses)
Complexity of scientific concepts/ language Students' varying interests in science fiction	(2 responses)
Complexity of scientific concepts/ language Lack of teacher training/ resources	(2 responses)
Cultural differences and interpretations Availability of suitable materials	(3 responses)
Cultural differences and interpretations Students' varying interests in science fiction	(4 responses)
Cultural differences and interpretations Lack of teacher training/resources	(1 response)

Students' varying interests in science fiction Lack of teacher training/re-sources	(3 responses)
Complexity of scientific concepts/lan-guage	(4 responses)
Cultural differences and interpretations	(2 responses)
Availability of suitable materials	(2 responses)
Students' varying interests in science fiction	(5 responses)

Figure 7

Question 7 – Most Effective Types of Science Fiction

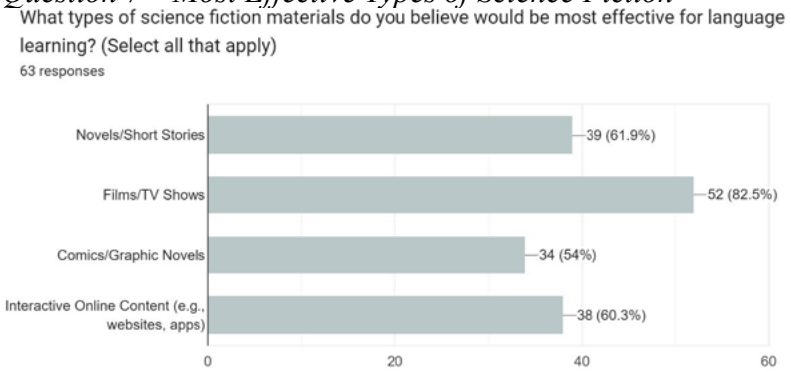


Table **3**

Participants' choices in detail

Novels/Short Stories Films/TV Shows Comics/Graphic Novels Interactive Online Content (e.g., websites, apps)	(13 responses)

Novels/Short Stories Films/TV Shows Comics/Graphic Novels	(3 responses)
Novels/Short Stories Films/TV Shows Interactive Online Content (e.g., websites, apps)	(6 responses)
Novels/Short Stories Comics/Graphic Novels	(4 responses)

Interactive Online Content (e.g., websites, apps)	
Films/TV Shows Comics/Graphic Novels Interactive Online Content (e.g., websites, apps)	(6 responses)
Novels/Short Stories Films/TV Shows	(9 responses)
Novels/Short Stories Comics/Graphic Novels	(1 response)
Novels/Short Stories Interactive Online Content (e.g., websites, apps)	(1 response)
Films/TV Shows Comics/Graphic Novels	(5 responses)
Films/TV Shows Interactive Online Content (e.g., websites, apps)	(6 responses)
Comics/Graphic Novels Interactive Online Content (e.g., websites, apps)	(1 response)
Novels/Short Stories	(2 responses)

Films/TV Shows	(4 responses)
Comics/Graphic Novels	(1 response)
Interactive Online Content (e.g., websites, apps)	(1 response)

Figure 8

Question 8 - Language Skills and Science Fiction

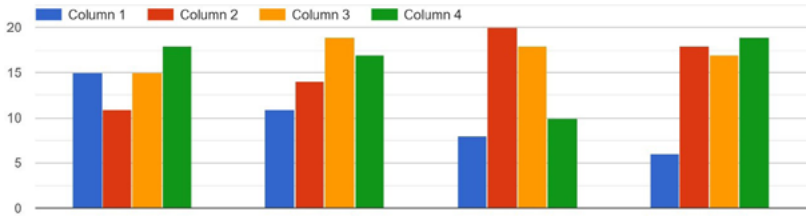


Table **4**

Participants' choices in detail

	Column 1	Column 2	Column 3	Column 4	No answer
Reading	15	11	15	18	4
Listening	11	14	17	19	2
Writing	8	20	18	10	7
Speaking	6	18	17	19	3

The responses suggest varying preferences among participants regarding the effectiveness of different types of Science Fiction materials for different language learning

skills. It appears that there's no dominant consensus, with different preferences across the columns for each skill area. This diversity in responses showcases the varying perceptions of how different types of Science Fiction materials could be beneficial for different language learning skills.

Question 9

How to Integrate Science Fiction into Language Learning

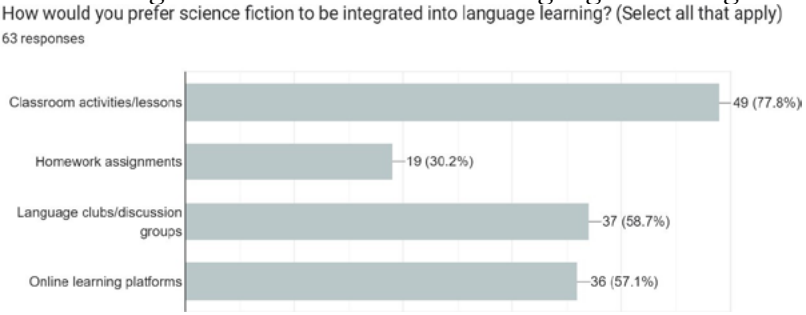


Table 5

Participants' choices in detail

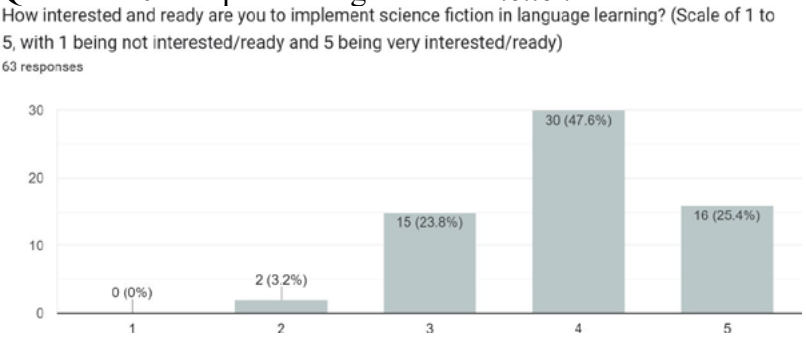
Classroom activities/lessons Homework assignments Language clubs/discussion groups Online learning platforms	(6 responses)
Classroom activities/lessons Homework assignments Language clubs/discussion groups	(3 responses)
Classroom activities/lessons Homework assignments Online learning platforms	(3 responses)

Classroom activities/lessons Language clubs/discussion groups Online learning platforms	(10 responses)
Classroom activities/lessons Homework assignments	(3 responses)
Classroom activities/lessons Language clubs/discussion groups	(9 responses)
Classroom activities/lessons Online learning platforms	(9 responses)
Homework assignments Language clubs/discussion groups	(1 response)
Homework assignments Online learning platforms	(2 responses)
Language clubs/discussion groups Online learning platforms	(4 responses)
Classroom activities/lessons	(6 responses)
Homework assignments	(1 response)
Language clubs/discussion groups	(4 responses)
Online learning platforms	(2 responses)

There was a wide range of preferences among the participants, and many of them liked a combination of integration methods rather than one. Classroom activities/ lessons, language clubs/discussion groups, homework assignments, and online learning platforms were all popular choices, indicating a preference for diverse and multifaceted approaches to integrating science fiction into language learning.

Figure **10**

Question 10 – Implementing Science *Fiction*



The participants' choices in question 10 were the following: Rating 1 (Not interested/ready): No participants selected this option.

- Rating 2: Chosen by 2 participants.
- Rating 3: Selected by 15 participants.
- Rating 4: Preferred by 30 participants.
- Rating 5 (Very interested/ready): Chosen by 16 participants.

Most of the participants showed a significant level of interest and willingness to utilize Science Fiction in language learning. A considerable number of the respondents gave high ratings of 4 and 5 on the scale, indicating that they are well-prepared and inclined to integrate science fiction into language education. This suggests a positive attitude towards exploring this innovative approach in their teaching or learning practices.

At the end of the survey, the participants were requested to share additional thoughts, experiences, or suggestions related to using Science Fiction in language learning, to which 39 responded. Below there is a list with twenty of those responses.

"There must be training for the teachers before using Sci-Fi resources because teachers must manipulate these resources for better explanation and understanding to their students."

"Incorporating science fiction into language learning can be an exciting and effective way to enhance language skills, expand vocabulary, and foster creativity."

"It is interesting, but I don't use science fiction in my life yet."

"I think we should be immersed in the language, I mean, the natural approach."

"This has helped me get students more interested in learning English."

"I think Science Fiction enhances language learning through imaginative scenarios and diverse terms. Analyzing stories develops critical thinking andfluency, while multimedia integration improves listening skills, creating a unique and enjoyable language acquisition approach."

"I think it is a good idea to implement science fiction in language learning."

"The last time I used this type of material was in a CEN class. We had to read a short story about surrealistic experiments and compare them with our reality and if it was possible to create them. With this activity, we also learned new vocabulary and improved our reading and speaking skills."

"Learning through SF could promote language skills with new words and ideas. Also discussing stories through conversations and creating personal SF stories in the second language enhances creativity and language proficiency."

"I like Marvel comics and I think that implementing these topics in class would be a wonderful idea."

"My suggestion would be to implement the use of science fiction it is didactically to have a better understanding."

"I think these students will feel motivated and is wonderful to include it in future classes. I like this kind of survey. :)"

"I'm really honest I don't have experience with science fiction in language learning, but for me, it's interesting to implement this methodology."

"By integrating science fiction creatively into teaching, students can develop a deeper understanding."

"Sci-fi aids language learning through diverse vocabulary, imaginative scenarios, and stimulating discussions."

"It helps learners to develop their critical thinking skills by implementing a specific writing language."

"It helps students create imaginative worlds and learn varied vocabulary and more complex sentence structures. In addition, I believe it would encourage critical thinking and linguistic expression."

The variety of these perspectives may be a clear indication of the potential of Science Fiction as a versatile and engaging tool for language learning, promoting critical thinking, vocabulary expansion, and creative expression among learners.

Discussion: Exploring the Role of Science Fiction in Language Learning

The amalgamation of survey data and participant insights tells us about the potential integration of Science Fiction into language learning contexts. The survey sought to gauge perceptions, experiences, and preferences related to utilizing science fiction as a tool for Teaching English as a Foreign Language (TEFL). Participants' responses shed light on several key aspects influencing the feasibility and efficacy of integrating science fiction into language education.

The survey revealed a diverse range of familiarity levels with science fiction among participants. While a substantial number expressed moderate to high familiarity, some indicated limited exposure. However, the insights shared by participants underscored the potential benefits,

showcasing that even those with limited exposure recognized the value of science fiction in enhancing language learning. Participant insights converged on the benefits of incorporating Science Fiction into language learning. Enhanced language skills, including vocabulary acquisition, improved comprehension, critical thinking development, and fostering creativity, were recurrently highlighted. The familiarity of students with mainstream media, such as movies like Star Wars and Marvel comics, presented an avenue for engaging learners with content they already find intriguing. Participants favored a varied approach, suggesting a combination of classroom activities, homework assignments, language clubs/discussion groups, and online learning platforms. This preference for multifaceted integration methods resonates with the varied learning styles and preferences of language learners.

Some participants emphasized the necessity for teacher training to effectively incorporate science fiction resources into language education. This highlights the importance of educators' readiness and proficiency in utilizing science fiction materials for improved explanation, comprehension, and engagement among students.

The potential for Science Fiction to engage and motivate language learners was consistently highlighted, and the prospect of integrating familiar settings from mainstream media into language classes emerged as a promising strategy to captivate student interest and enthusiasm for language learning.

While the enthusiasm for integrating Science Fiction into language learning was evident, a few participants highlighted the need for a natural approach to immersion in language and the importance of didactic implementation for effective understanding. The diverse benefits, coupled with varied integration methods and considerations for teacher training, advocate for a strategic and inclusive approach to harnessing Science Fiction's potential in language education in general. As educators navigate the integration of innovative methodologies, the insights shared by these participants serve as a valuable guide in fostering effective language learning environments.

The Future of Science Fiction and TEFL, a Conclusion

The intersection of Science Fiction and Teaching English as a Foreign Language has been a fascinating exploration of imagination, innovation, and the endless possibilities that exist within the nexus of literature and language education.

We have revisited works by visionary authors like Jules Verne, Isaac Asimov, and Arthur C. Clarke, among others, whose works established a genre that not only captivates readers but also challenges them to consider the uncharted territories of human potential. The amalgamation of literature and language education promises to inspire, engage, and shape the linguistic landscape of the future. In the vast expanse where Science Fiction and TEFL intersect, the journey continues, driven by creativity, guided by knowledge, and

fueled by the pursuit of linguistic excellence and imaginative enlightenment of all language teachers who dare to imagine.

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The R2ICs, with its respective editorial seal, hereby certifies and acknowledges that the work titled *"Science Fiction and TEFL"* meets the necessary methodological and disciplinary rigor to be considered a relevant work. Furthermore, it has undergone peer review, receiving the verdict of being publishable.

Accordingly, it complies with quality standards for teaching and learning processes, it is original, and it contributes to the knowledge and education of university students. As such, it is deemed fundamental and substantial in Higher Education.

Sincerely,

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