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Diploma thesis

Prediction of the Future in the Work of Herbert George Wells

Předpověď budoucnosti v díle Herberta George Wellse

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Anotace

Cílem práce je analýza vybraných příběhů H.G. Wellse se zaměřením na otázku předpovědi budoucnosti. Úvodní kapitoly budou věnovány základní charakteristice autorova života a díla v rámci science fiction, a také stručnému srovnání s dílem Julese Verna, s nímž sdílel přezdívku "otec science fiction." Samostatná kapitola se bude zabývat zájmem H.G. Wellse o budoucnost, které podle současníků rozuměl více než realitě své doby. Následující část práce se bude soustředit na hlavní téma – analýzu textů, jejichž stěžejním prvkem jsou události, které se později opravdu staly. Tato díla mohou být považována za určitou předpověď daných událostí. Součástí práce bude i porovnání popsanych událostí s událostmi skutečnými.

Anotation

The analysis of chosen stories written by H.G. Wells focusing on the question of predicting the future is the aim of the work. The introductory chapters will be devoted to the basic characteristics of the author's life and work within science fiction, as well as a brief comparison with the work of Jules Verne, with whom he shared the nickname "the father of science fiction." A separate chapter will deal with the interest of H.G. Wells about the future, which according to contemporaries he understood more than the reality of his time. The next part of the work will focus on the main topic - the analysis of texts, the key element of which are events that later really happened. These works can be considered as a certain prediction of given events. Comparison of the described events with the real events will be a part of the work.

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Introduction

When I thought about a topic for my diploma thesis, I decided to choose the topic related to literature. I got various ideas. Nevertheless, one day in the past, I was searching for information about Herbert George Wells on the internet and I noticed something which impressed me. According to the article, Herbert George Wells understood the future better than his present time and he wrote several novels which are considered as predictions of the future.

Moreover, I like science fiction in general. I have always loved the theme of time travelling in movies, the possibility of changing the future or the past. So, it supported my idea to suggest it as a topic for my diploma thesis and Mrs. Vrankova, my supervisor, approved my idea.

My diploma thesis consists of two parts, the theoretical and the practical part. In the first part, I focus on the personality of Herbert George Wells and his science fiction literature.

I start my diploma thesis with a chapter about the genre of science fiction itself. The beginning of this chapter provides several definitions of science fiction and I also mention the term “the novum,” which was developed by Darko Suvin. I describe science fiction period before the year 1926, when the term science fiction was used for the first time. I also mention the period of science fiction after the year 1926, which is called Golden Age of Science Fiction.

The content of the second chapter of my thesis is the life of Herbert George Wells. I also describe Wells’ socialistic political opinion as the part of this chapter. Nevertheless, Wells had many various political opinions.

The third chapter includes science fiction literature by Herbert George Wells. It mentions some general information about his relationship to this kind of literature and it briefly characterizes his few important novels. It points out that though he is known as “the father of science fiction,” he used the genre known as “scientific romance.” In this respect, the chapter involves basic facts about the genre called “scientific romance.”

For the next chapter, called “Novum in H. G. Wells Literature,” I chose several Wells’ novels and short stories I had read, and I mention all symbols of these texts which could be considered as novums.

The integral part of chapter five is Jules Verne, who is also known as the father of science fiction alongside with Wells. I refer to some basic facts from his life and literary career. This chapter also compares Jules Verne with Herbert George Wells and reflects their relationship.

The last chapter of the theoretical part focuses on H. G. Wells' relationship to the future. As he is also called the father of futurology, I have also decided to mention futurology as well as some basic facts about this concept.

The practical part of my diploma thesis focuses on the literary analysis of several Wells' stories which are considered the predictions of the future. These stories are compared with the real events. I also interpret two novels, *The Time Machine* and *The Invisible Man*, as potential predictions. These two novels are not considered as the works which predict future events, nevertheless, this fact can be changed whenever in the future.

I. Theoretical Part

1. Science Fiction

1.1. Science Fiction in General

The term science fiction resists an easy definition. This is curious because most people have a sense of what science fiction is. Any bookstore has a section devoted to SF: shelves of mostly brightly – coloured paperback volumes, illustrated on their covers with photorealist painting of intricate spaceships perhaps, or of men and women in futuristic cities or bizarre alien landscape. Science fiction distinguishes its fictional world to one degree or another from the real world. ¹

The Oxford English Dictionary defines science fiction as imaginative fiction based on postulated scientific discoveries or spectacular environmental changes, frequently set in the future or on other planets and involving space or time travel, adding that the term did not come into common usage until the 1920s. The terms of this basic dictionary definitions are instructive: imaginative fiction differentiates science fiction from realist fiction, in which there is some attempt at a literary verisimilitude that reproduces the experience of living in the world we recognise as ours. Where the realist writer needs to focus on accuracy, the science fiction author uses his imagination to invent things which do not exist. ²

1.2. Definitions by authors

It is worth detailing three definitions of science fiction that have had a great deal of influence on the study of the subject, from three influential critics: Darko Suvin, Robert Scholes and Damien Broderick.

In 1979, Darko Suvin defined science fiction as a literary genre whose necessary and sufficient conditions are the presence and interaction of estrangement and cognition, and whose main formal device is an imaginative framework alternative to the author's empirical environment.

Robert Scholes in his study *Structural Fabulations* has stressed the metaphorical strain of science fiction. He defines fabulation as any fiction that offers us a world clearly and radically discontinuous from the world we know. He also returns to confront that known world in some cognitive way. Scholes wants to acknowledge that science fiction is interested in things being different from the world we live but does not want to concede that this makes science fiction

¹ Roberts A. (2000) *Science Fiction*. London, Routledge 11, Fetter Lane, page 1

² Roberts A. (2000) *Science Fiction*. London, Routledge 11, Fetter Lane, page 2

merely escapist or irrelevant. According to this author, science fiction is both different and the same, both discontinuous from our world and also confronting that world in some cognitive way.³

Damien Broderick, an author of science fiction as well as well as a theoretically engaged critic, concludes his analysis of the contemporary SF scene with the following definition of what science fiction is now:

SF is that species of storytelling native to a culture undergoing the epistemic changes implicated in the rise and supercession of technical-industrial modes of production, distribution, consumption and disposal. It is marked by a) metaphoric strategies and metonymic tactics, b) the foregrounding of icons and interpretative schemata from a collective constituted generic mega-text and the concomitant de-emphasis of fine writing and characterisation and c) certain priorities more often found in scientific and postmodern texts than in literary models: specifically, attention to the object in preference to the subject.⁴

The author who deserves to be mentioned is Gwyneth Jones. Jones sees science fiction as a form of thought experiment, an elaborate “what if?” game where the consequences of some other nova are worked through. In other words, it is not the truth of science that is important to science, it is the scientific method, the logical working through of a particular premise. To quote Jones:

Science in Science Fiction has always had a tacit meaning other than commonly accepted. It had nothing in particular to say about the subject matter which may be just about anything so long as the formal conventions of future dress are observed. It means only, finally, that whatever phenomenon or speculation is treated in the fiction, there is a claim that it is going to be studied to some extent scientifically – that is objectively, rigorously; in a controlled environment. The business of the writer is to set up the equipment in the laboratory of the mind such that the “what if” in question is at once isolated and provided with the exact nutrients it needs.⁵

³ Roberts A. (2000) *Science Fiction*. London, Routledge 11, Fetter Lane, page 10 – 11

⁴ Broderick, Damien (1995), *Reading by Starlight: Postmodern Science Fiction*, London and New York: Routledge, page 155

⁵ Jones, Gwyneth (1999) *Deconstructing the Starship: Science Fiction and Reality*, Liverpool: Liverpool University Press, page 4

1.3. The Science Fiction and Novum

Darko Suvin, Yugoslav – born professor, described science fiction as a literary form marked by two unusual devices: cognitive estrangement and the novum. Cognitive estrangement is connected with creating and understanding the imagined world as different from our own, by means of scientific observation, theorizing, and empirical experiment. Such new textual worlds are set off from ours chiefly by means of a drastic disruption, an anomalous breach in accepted verities; in short, an intrusive novelty so strange, and at first inexplicable, that it deserves a category of its own: the novum.⁶

Novum is a Latin word and means a new thing. It is a term used by science fiction scholar Suvin Darko and others to describe the scientifically plausible innovations used by science fiction narratives. Suvin learned the term from Ernst Bloch.⁷

For Suvin, whose theoretical approach to science fiction derives from non-communist Marxism, the novum is a device for casting light on ourselves: "All the epistemological, ideological, and narrative implications and correlatives of the novum lead to the conclusion that significant sf is in fact a specifically roundabout way of commenting on an author's collective context."

For many science fiction writers, admittedly, use of a novum is less grandly ambitious: it can be just a Big Dumb Event or Big Dumb Object that permits genre-specific kinds of exploration, adventure and displaced fantasies of omnipotence or at least supreme competence. In the strict sense, though, the novum is a conceptual challenge to everything we hold dear, often including today's hard-won scientific knowledge and activities, and even the nature and worth of human consciousness, individual and social alike. The sometimes epiphanic moment common to Hard SF in particular, when the novum is seen to comprise a platform through which a new understanding of the world can be gained, is a central marker of Conceptual Breakthrough.⁸

One classic example of a small scale novum comes from Robert Heinlein's *Beyond this Horizon* which was serialised in the magazine *Astounding Science-Fiction* in 1942 and published as a book in 1948. The novel starts with an officer worker named Felix who goes to work. He arrives at his office, punches in a security code and the door

⁶ Suvin, D. (1979), *Metamorphoses of Science Fiction*, New Haven and London, Yale University Press, page 71

⁷ Roberts A. (2000) *Science Fiction*. London, Routledge 11, Fetter Lane, page 10 – 11

⁸ Internet: <http://www.sf-encyclopedia.com/entry/novum>

dilated. All it takes is that little detail to evoke the particular response of the science fiction text.⁹

In other words, the key symbolic function of the SF novum is precisely the representation of the encounter with difference, otherness and alterity.

1.4. Period before Science Fiction

The term science fiction became used in 1926, but the genre has its roots in the nineteenth century. Marry Shelley's *Frankenstein*, an important progenitor of the genre was itself signally vague about science but as the century progressed, scientific discoveries became increasingly a subject for debate and were discussed in popular journal.¹⁰

However, there are critics who like to cite earlier texts. *The Epic of Gilgamesh* and *The Bible* are two works sometimes mentioned, because they mix passages aimed at recreation of everyday life in terms we might think loosely as realist with scenes that are fantastic, impossible, supernatural and miraculous.¹¹

A popular example of proto-science fiction is Lucian, a Syrian novelist, who wrote in the second century AD. In his *True Story*, the ship in which the narrator is sailing is caught up by a hurricane and hurled into the sky, from where it sails on to the Moon. In another Lucian's work, *The Icaromenippus*, the protagonist uses wings of a vulture and an eagle in order to fly to the Moon.¹²

Herbert George Wells with his novels *The Time Machine*, *The Island of Dr. Moreau* and *The Invisible Man* brought together the various elements of the nineteenth-century scientific romance, uniting scientific concepts, social issues and human interest into one graphic narrative.¹³

1.5. Pulp Science Fiction Period

Pulp science fiction period is a period around the year 1926, when the term science fiction was first used. Hugo Gernsback was a key figure of the period called Pulp science fiction. He was the editor and the publisher of the scientific magazine *Amazing Stories*, which was published in 1926. He is also called "the father of magazine

⁹ Roberts A. (2000) *Science Fiction*. London, Routledge 11, Fetter Lane, page 2

¹⁰ James, L. (2006) *The Victorian Novel*. United Kingdom, Blackwell Publishing, page 213

¹¹ Roberts A. (2000) *Science Fiction*. London, Routledge 11, Fetter Lane, page 49

¹² Roberts A. (2000) *Science Fiction*. London, Routledge 11, Fetter Lane, page 48

¹³ James, L. (2006) *The Victorian Novel*. United Kingdom, Blackwell Publishing, page 214

science fiction” or the founder of science fiction. ¹⁴ Moreover, is said to be the author of the name of the genre itself. He talked about it ambitiously:

Not only is science fiction of an idea of tremendous import, but it is to be an important factor in making the world better place to live in, through educating to the public to the possibilities of science and the influence of the science on life...if every man, woman, boy and girl could be induced to read science fiction right along, there would certainly be a great resulting benefit to the community. Science fiction would make people happier, give them a broader understanding of the world, make them more tolerant. ¹⁵

Hugo Gernsback came from Luxembourg. He moved to the United States in 1894 in order to apply his technical education. He was interested in electronics and radio engineering and its future development.

In 1908, Gernsback published his first magazine entitled *More Electrics*. He renamed his magazine several times. The other titles were *Modern Electrics* and *Electrical Experimenter*. In 1920, he renamed his magazine *Science and Invention*. The content of edition from august 1923 was about of what Gernsback later called science fiction. In 1926, it was the first time he published the first edition of *Amazing Stories*, which was the very first science fiction magazine.

At the beginning, Gernsback published short stories by Herbert George Wells, Jules Verne and Edgar Allan Poe because he considered them as science fiction establishers. He also published new pulp short stories by Garret P. Servis, A. Merrit and Murray Leinster. Frank R. Paul contributed with various illustrations, which were influential till the second half of the 20th century. ¹⁶

¹⁴ Internet: <http://www.zlatyveksf.euweb.cz/alternative/23.htm>

¹⁵ Roberts A. (2000) *Science Fiction*. London, Routledge 11, Fetter Lane, page 68

¹⁶ Internet: <http://www.zlatyveksf.euweb.cz/alternative/23.htm>

1.6. Golden Age of Science Fiction

We use the term Golden Age of Science Fiction in relationship with magazine science fiction of 1940s. It relates with the magazine *Astounding Science Fiction* and its editor John W. Campbell, Jr.

The connection between *Astounding Science Fiction* and John W. Campbell, Jr begun in 1937. Campbell became a redactor in *Astounding*. First, he served as a helper of F. Orlin Tremaine, who recruited him because of business. But after Tremaine left, Campbell became an editor in chief. First of all, Campbell, as an editor in chief, renamed the title of *Astounding*. At first, it was entitled as *Astounding Stories of Super-Science* and afterwards it bore a name *Astounding stories*. However, the final title of this magazine was *Astounding Science Fiction*. The main goal of Campbell was to let the word *Astounding* disappear and keep the word phrase *Science Fiction*. The word *Astounding* really became invisible alongside the phrase *Science Fiction*. But this Campbell's effort was unsuccessful because in 1939 a different magazine entitled *Science Fiction* was published.¹⁷

The year 1939 is considered as the real beginning of Golden Age of Science Fiction. *Astounding Science Fiction* published debut short stories by many new authors such as Isaac Asimov, Robert A. Heinlein or Theodor Sturgeon. The main aim of Campbell's work was to discover new talents and their following development.¹⁸

The period after the Second World war is considered as the end of the Golden Age of Science Fiction. The horrors of the Second World War caused that the world lost the optimistic attitude to science and the technical development. The period 1949 – 1950 is often considered as the real end of Golden Age of Science Fiction, when the *Astounding Science Fiction* magazine lost his dominant position in the field of science fiction and new ambitious magazines such as *The Magazine of Fantasy & Science Fiction* and *Galaxy Science Fiction* were developed.¹⁹

¹⁷ Internet: <http://www.zlatyveksf.euweb.cz/alternative/10.htm>

¹⁸ Internet: <http://www.zlatyveksf.euweb.cz/alternative/52.htm>

¹⁹ Ondřej Neff a Jaroslav Olša, jr.: Encyklopedie literatury science fiction, AFSF a H&H, Praha a Jinočany 1995, str. 215.

1.7. Hard Science Fiction

Jules Verne is considered as the first one who wrote the novels with themes of hard science fiction.²⁰ Otherwise, “Hard science fiction” term was first used in 1957 by the author P. Schuyler Miller. The term marks science fiction studying hard science such as chemistry, physics and mathematics. This kind of science fiction was written in the style of science fiction genre published in Campbell’s *Astounding*.²¹

Scientific component of Hard Science Fiction was very various because the authors had scientific education. John W. Campbell studied physics and Isaac Asimov chemistry. Asimov was also knowledgeable at many other fields of scientific study. Philip Latham was a professional astronomer and L. Sprague de Camp was an aeronautical engineer. Robert Heinlein got technical education provided by Naval Academy.²²

David Hartwell enumerates criteria for recognizing hard science fiction:

- Hard SF is about beauty of truth and about the emotional experience of describing and confronting what is scientifically true.
- Hard SF feels authentic to the experienced reader when the way things work in the story is scientifically plausible.
- Hard SF relies at some point in the story, on expository prose rather than literary prose, prose aimed at describing the nature of its particular reality.
- Hard SF relies on the scientific knowledge external to the story.
- Hard SF achieves its characteristic affect essentially through informing, by being, in fact, didactic.²³

The readers should have a certain level of knowledge in order to understand the stories of hard science fiction genre. The main theme of most hard science fiction stories was “human vs universe” in comparison with the 19th century, when the main theme was “human vs nature.” The most important is the question what the main protagonist manages to do. Not his characteristics.²⁴

²⁰ The History of Sci Fi – Jules Verne – Extra Sci Fi #1 In Youtube [online] 07. 03. 2018 [cit. 2020 – 06 – 01]

²¹ Internet: <http://www.zlatyveksf.euweb.cz/alternative/54.htm>

²² Internet: <http://www.zlatyveksf.euweb.cz/alternative/54.htm>

²³ Edited by James E, Mendlesohn, F, The Cambridge Companion to Science Fiction (2003), Cambridge University Press, page 188

²⁴ Internet: <http://www.zlatyveksf.euweb.cz/alternative/54.htm>

1.8. New Wave

The New Wave is a movement in science fiction produced in the 1960s and 1970s and characterized by a high degree of experimentation, both in form and in content, by a “literary” or artistic sensibility, and focus on “soft” as opposed to hard science fiction. The genre became genuinely mass popular phenomenon.²⁵

It is certainly the case that during the sixties, a number of cult novels achieved enormous international popularity, starting with devoted fans on university campuses and spreading out. Huntington explicitly links this burgeoning popularity with the shifting ideological tenor of the times:

The growth of new wave SF in the sixties can be seen as a rendering of attitudes implicit in the SF of the middle and late fifties. It is not accidental that the flourishing of the new wave in SF coincides with a decade of political activism and of scepticism about technological solutions to social and environmental problems.²⁶

The most prominent source of New Wave science fiction was magazine *New Worlds* under the editorship of Michael Moorcock, who became the editor in 1964. It was a period of rise in the number of female writers, including Joanna Russ, Ursula K. Le Guin and Alice Bradley Sheldon (who wrote under the pseudonym James Tiptree, Jr.). The New Wave was also influenced by the events of the 1960s, such as Vietnam War, and by social trends such as the drug subculture and sexual liberation.²⁷

²⁵ Moorcock, Michael. "Play with Feeling." *New Worlds* (1963), pp. 123-27

²⁶ Roberts A. (2000) *Science Fiction*. London, Routledge 11, Fetter Lane, page 79

²⁷ Interner: https://en.wikipedia.org/wiki/New_Wave_science_fiction

2. Life and Opinions

2.1. Life

Herbert George Wells is an English writer. Prolific in many genres, he wrote dozens of novels, short stories, and works of social commentary, history, satire, biography and autobiography. He himself stated that two broken legs were the happiest events which happened to him as they gave him time for reading and writing.²⁸

Herbert George Wells was born on 21st September 1866 in Bromley. He came from a poor family, which connects him with Charles Dickens, who inspired him. His father worked as a gardener and mother was a servant. They bought a small shop focusing on selling porcelain and other kind of goods. It was situated in Bromley, a small town in Kent.²⁹

The absence of financial resources was a reason why he did not think about going to study high school and university afterwards. His nickname was Bertie and he was expected to sell in their shop one day. His parents made attempts to send him to learn a handicraft, but this effort was not successful.

At the age of seven, he experienced the first “happy” event. He broke his leg. He spent several weeks lying in bed and reading books, which his father and neighbours brought him. He fell in love with literature and it was the first time he had felt that he could live a better life than selling in the family shop.

Four years later, he experienced the second “happy” event. It was the second time his family had experienced a broken leg. That time, it was not H. G. Wells, but his father Joseph. His career of the professional cricket player was over, so he went to work for their family shop instead of his wife. H. G. Wells found his father’s injury positive because it meant that his father would become a shop assistant in their family shop and Herbert would not be forced to do this job anymore. As a student, he was really talented. But as he came from the poor family, he was sent to schools of poor qualities.³⁰

As his Kentish countryside disappeared beneath the Victorian bulldozer, he took a monumental decision to leave his home and family behind for a new life. When he was 18 years old, he gained a Scholarship at Normal School of Science at South Kensington and he started studying biology and zoology. He had a dream to become a scientist. He planned to study under one of the most brilliant men of the day, the biologist Thomas Huxley, better known to the

²⁸ Internet: <https://www.indiatoday.in/education-today/gk-current-affairs/story/6-true-future-predictions-hg-wells-1345657-2018-09-21>

²⁹ Stříbrný, Zdeněk. *Dějiny anglické literatury 2*. Praha: Academia, 1987, page 603

³⁰ HUDSKÝ, Stanislav (2003). *Jiné světy za dveřmi nevyzpytatelného pana Wellse*. Doslov. In: *H. G. Wells: Superaktivátor*. Praha. ŠEL, page 234 – 235

Victorians as Darwin's bulldog.³¹ He and his few friends developed a school magazine *Science School Journal* and Wells wrote articles for this magazine quite regularly. This activity was an evidence he desired to be a writer in that period of his life. It meant a completely different and new world for H. G. Wells. It meant many opportunities for him, not only studying. He took part in various activities and did not have time for studying.³²

While studying at the Normal School, Wells wrote short stories and essays. Among these, *The Universe Rigid* (1881) included some of Albert Einstein's ideas. "The past means looking in a certain direction, while the future means looking the opposite way," Wells wrote. "Time is merely a dimension, analogous to the three dimensions of space." This notion led to his first, immensely successful novel, *The Time Machine*.³³

He became a member of a discussion group called debating society and he took part in the activities of the group called Fabian Society. He met a lot of famous people and heard a lot of presentations and opinions lectured by these people. Later he became a member of Fabian Society. However, the fact he did not have time for studying led to the fact he failed the final exams and lost scholarship.

Wells helped to teach at private schools and he also intensively educated himself. He was self-educated, but in his opinion, it was important not only to teach himself, but also to teach people.³⁴

The turn of 1880s and 1890s was full of illnesses. Tuberculosis caused that he was forced to say goodbye to his careers as a teacher and a scientist. He also had to undergo a surgery of lungs which was very risky. Nevertheless, he wanted to write novels at least because writing novels was the only thing he could do. However, he wrote only short stories because writing novels would have been too difficult for him. He might have portrayed this period of his life in his short stories which were published in 1890s. He experienced states of flus, visions and sufferings and probably, he reflected this experienced in the dreams of the main characters of his short stories.

In 1891, he married his cousin, Isabel Marry Wells. They agreed to get divorce in 1894 when he had fallen in love with one of his students, Amy Catherine Robbins. Afterwards, they moved to Woking, Surrey, where they lived in a rented house. They lived there for a short time,

³¹ Future Tense: The Story of H. G. Wells, BBC Documentary, 2016, In Youtube [online], 17. 09. 2016, [cit. 2020 06-01]

³² HUDSKÝ, Stanislav (2003). *Jiné světy za dveřmi nevyzpytatelného pana Wellse*. Doslov. In: *H. G. Wells: Superaktivátor*. Praha. ŠEL, page 235

³³ Internet: <https://eandt.theiet.org/content/articles/2016/12/hg-wells-the-worlds-first-professional-futurologist/>

³⁴ HUDSKÝ, Stanislav (2003). *Jiné světy za dveřmi nevyzpytatelného pana Wellse*. Doslov. In: *H. G. Wells: Superaktivátor*. Praha. ŠEL, page 235

but the period in Woking might have been the most creative and productive of his whole writing career, as he planned and wrote *The War of the Worlds* and *The Time Machine*, completed *The Island of Doctor Moreau*, wrote and published *The Wonderful Visit* and *The Wheels of Chance*, and began writing two other early books, *When the Sleeper Wakes* and *Love and Mr Lewisham*.³⁵

He suffered from the lack of information about development in Russia, so he decided to meet this country personally. He visited Russia three times, in 1914, 1920 and 1934. During his second visit, he met Maxim Gorki in Leningrad and he lived with him. Gorki was a mediator of the meeting of Wells and Vladimir Lenin. This visit was a basis for Well's book *Russia in Shadow*.³⁶

First, Wells was impressed by the vision of improving social conditions of people from the lower society. First, Wells wrote articles, which were based on his visit of Russia. These articles were published as a part of *The New York Times*. The book *Russia in Shadow* consist of these articles. Wells stated in the book that he would be happy if Lenin's dreams became a reality. Nevertheless, he did not believe in it and *Russia in Shadow* sounded quite sceptical.

When he visited Russia for the third time, he had an interview with Stalin. However, Wells was unhappy about this interview. As Stalin could not speak any foreign language, a translator took part in their interview. But his presence did not help. Wells had a feeling that the translator showed bad translating skills and their interview was about nothing. Nevertheless, Wells recognized that Stalin was a cruel dictator. This interview was the main reason why Wells lost all his illusions related to The Soviet Union. Soon after, he wrote a book entitled *The Dictator* which was based on both Stalin and Hitler.³⁷

When Wells celebrated his 70th birthday, he met George Bernard Shaw during the main toast. Wells had a lot of common with George Bernard Shaw. They both were considered as the only British authors who contributed to the spiritual life of Europeans with new values and perspectives. They both were members of Fabian society and friends of the Soviet Union. However, while Shaw saw perspectives in mystical Life Force leading to the birth of the superman, Wells turned his attention to exact and technical sciences and to ordinary lives of ordinary people.³⁸

³⁵ HUDSKÝ, Stanislav (2003). *Jiné světy za dveřmi nevyzpytatelného pana Wellse*. Doslov. In: H. G. Wells: *Superaktivátor*. Praha. ŠEL, page 236

³⁶ Stříbrný, Zdeněk. *Dějiny anglické literatury 2*. Praha: Academia, 1987, page 604

³⁷ HUDSKÝ, Stanislav (2003). *Jiné světy za dveřmi nevyzpytatelného pana Wellse*. Doslov. In: H. G. Wells: *Superaktivátor*. Praha. ŠEL, page 242

³⁸ Stříbrný, Zdeněk. *Dějiny anglické literatury 2*. Praha: Academia, 1987, page 603

In November 1945, he published a book entitled *Mind at the End of its Tether*. The book was based on dropping atomic bomb on Hiroshima. It was his very last piece of literature and it was considered as a literary and sociologic testament.³⁹ Wells wrote this book in order to express his desperation and pessimism caused by the two world wars. He also expressed his fear of atomic era.⁴⁰

On 13th August 1946, Herbert George Wells died in London. He left the world he had always feared. A ravaged dystopia brought to its knees by the effects of war.⁴¹

2.2. Socialist

Around the turn of the 20th century, Wells became an unspoken socialist.⁴² He saw the way of the future as socialist one, with a better distribution of wealth and education. He felt that in writing science fiction, he could help bring this about. He could point out inequities to the masses and highlight the injustice to the elite without using any direct form of condemnation that might bring a complete knee-jerk rejection of his ideas. It is reflected in the novel entitled *The Invisible Man*.⁴³

In 1903, he became a member of Fabian Society which was a society influenced by new social and socialistic opinions. It campaigned for a social reform and believed that socialism is the best political system. However, Wells later disagreed with the group's methods and tried to seize control of this organization.⁴⁴

³⁹ HUDSKÝ, Stanislav (2003). *Jiné světy za dveřmi nevyzpytatelného pana Wellse*. Doslov. In: *H. G. Wells: Superaktivátor*. Praha. ŠEL, page 238 – 239

⁴⁰ Stříbrný, Zdeněk. *Dějiny anglické literatury 2*. Praha: Academia, 1987, page 608

⁴¹ Future Tense: The Story of H. G. Wells, BBC Documentary, 2016, In Youtube [online], 17. 09. 2016, [cit. 2020 06-01]

⁴² Writer H. G. Wells Loved to Predict the Future, In Youtube [online], 05. 05. 2020, [cit. 2020 06-02]

⁴³ The History of Sci Fi – H. G. Wells – Extra Sci Fi #2 In Youtube [online] 14. 03. 2018 [cit. 2020 – 06 – 01]

⁴⁴ Writer H. G. Wells Loved to Predict the Future, In Youtube [online], 05. 05. 2020, [cit. 2020 06-02]

3. H. G. Wells: Science Fiction Literature

Herbert George Wells is best remembered for his science fiction novels and he is called “the father of science fiction” along with Jules Verne and the publisher Hugo Gernsback. What inspired him was fantasy utopia by Thomas Moore, Jonathan Swift, Mary Shelley, Samuel Butler, William Morris and mainly adventurous and humorous novels written by Jules Verne.

The real basis comes from 1874 he broke his leg and, paradoxically, it influenced him positively. Afterwards he was obliged to just lie on his bed. So, as his father brought him a lot of books, he spent a lot of time reading. In that time, he discovered the beauty of fantasy and tendency to create his own worlds and many other things. This time gave him a desire to become a writer, and also the feeling that he is cleverer and more adult than people around him.⁴⁵

While he was a schoolboy at Bromley, Wells was engaged in literal activity and at the age of twelve, he wrote a manuscript of a story which has recently been published in facsimile in America. During the years of apprenticeship, he continued to write whenever he had an opportunity and, at the age of seventeen, he wrote two stories. One was called *Potted Onions* and other described the adventures of Otto Noxious. But the main stimulus appeared during his years as a student at Royal College of Science. Between the years 1886 and 1890 he wrote a large number of stories as a contribution to *Science Schools Journal magazine*. Several years after Wells left the College, while recovering from a breakdown in health, he wrote a fragment of the fantasy novel *The Chronic Argonauts*, which is the most ambitious and important piece of writing surviving from his earliest years. It was serialized in the *Science Schools Journal* during spring in 1888, but it was never completed. This work was, in effect, the first draft of *The Time Machine*.

H. G. Wells' science fiction is marked by the question concerning the disastrous consequences which can come from the rapid technological progress in old societal conditions. His themes are reminiscent of the Faustian genius, overstepping human abilities but paying greatly in blood and suffering since it is unable to morally perfect itself in scientific progress.⁴⁶ He brought a social critique to science fiction. He showed us what science fiction could be, why it was important, why it might not be just a momentary novelty to be discarded, but a vital addition to the pantheon of literature. He used his prose like an axe, hacking away at what he saw as injustice in the society around him. He wore his politics on his sleeve and made no bones about his hope that technology and science would lead humankind to a better world. He was

⁴⁵ Stříbrný, Zdeněk. Dějiny anglické literatury 2. Praha: Academia, 1987, page 603

⁴⁶ Peck, E. & Peck, A, Panorama of English Literature/Anglická literatura. Infoa, 2002, chapter Literature before and during World War I

the one to introduce us to the idea that science fiction could be used to make an extrapolation to the present. The idea that it could be used to take the course of humanity and push it to the hyperbolic extreme to speculate that if we just keep going like we are going, what will happen? This is described especially in one of his most famous novels, *The Time Machine*.

Wells was perhaps the king of the Big Idea, the notion that science fiction should be grounded in the exploration of something larger, that it was not just including science as part of a story that made science-fiction tale worth the telling. This notion is going to have echoes throughout the entire history of sci-fi. In fact, the Big Idea may be the thing that, more than spaceships, robots or laser guns, typifies science fiction as a movement.⁴⁷

3.1. Influence

The science fiction historian John Clute described Wells as “the most important writer of the genre” he had ever seen. He also stated that Wells’ work has been central to both American and British science fiction. The science fiction author and critic Algis Budrys points out that Wells “remains the outstanding expositor of both the hope, and the despair, which are embodied in the technology and which are the major facts of life in our world.” Wells was nominated for the Nobel Prize in literature four times but never won it.

Herbert George Wells was a very influential person. Arthur C. Clarke and Brian Aldiss were British science fiction writers of the period of the Second World War, who expressed strong admiration for Wells’ work. Later American writers such as Ray Bradbury, Isaac Asimov, Frank Herbert and Ursula K. le Guin recalled being influenced by Herbert George Wells.⁴⁸

Wells’ science fiction novels, especially *The Island of Dr. Moreau*, were also said to influence Karel Capek, the writer from the Czech Republic. However, Karel Capek used Wells’ literature as an inspiration but did not imitate him. He tried to do his best in order to make up his own themes. Capek admired Wells as if he were be his son. He considered Wells as a “poetic pointer into the future.” Wells also appreciated Capek and he even visited Prague for several times because of Capek’s invitation. In 1924, they met for the first time where Capek travelled to England.⁴⁹

⁴⁷ The History of Sci Fi – H. G. Wells – Extra Sci Fi #2 In Youtube [online] 14. 03. 2018 [cit. 2020 – 06 – 01]

⁴⁸ Internet: <https://www.nytimes.com/1978/05/28/archives/growing-up-with.html>

⁴⁹ Stříbrný, Zdeněk. Dějiny anglické literatury 2. Praha: Academia, 1987, page 603

3.2. Scientific Romance

As Wells is known as “the father of science fiction,” he did not mean his novels as science fiction because he did not know this term. As I have mentioned in the first chapter, this term was set later in 1926 by Hugo Gernsback. Herbert George Wells called this genre scientific romance.

Scientific romance is a term applied to primarily British fiction and non-fiction works that use scientific speculations as a basis for the story. Scientific Romance is a term applied to early versions of Science Fiction from the late nineteenth and early twentieth centuries. That is not to say that this type of Science Fiction has been doomed to the pages of history, in fact in recent years the sub-genre has seen a revival by writers paying a sort of homage to the original Scientific Romances by mimicking their style. There are two distinct faces of Scientific Romance: a lighter and more optimistic side that sees technology as wonderful and adventurous; and a darker side that is more cautionary and filled with social critique.⁵⁰

“Scientific romance” became a standard phrase used to describe science fiction after Jules Verne’s debut *Five Weeks in a Balloon*. After he published this novel, he virtually created something what soon became known in France as the roman scientifique. A direct translation of this term was “scientific novel,” however, more common phrase used in English was “scientific romance.” *The Man with the Broken Ear*, a drama by a French writer, Edmond About, in discussing the revivification of a mummy, uses the phrase “c’est un petit roman militaire et scientifique.” The English translation of this sentence is “I have a little military and scientific romance for you.” The term was the commonly used, and in 1884, when C.H. Hinton published a two-volume set of collection speculative non-fiction and science fiction, he entitled it *Scientific Romances*, beginning over a decade of its steady use by critics.⁵¹

3.3. Literary works

Some novels written by Herbert George Wells became the key exemplars of scientific romance genre. Wells usually lumped his science fiction and fantasy novels together as “fantastic and imaginative novels”, but he eventually chose to label the collection of his best-known science fiction novels *The Scientific Romances of H. G. Wells*. But in America, where the term was not familiar, this collection was retitled *Seven Famous Novels*. This collection includes the following novels: *The Time Machine*, *The Island of Dr. Moreau*, *The Invisible*

⁵⁰ Internet: http://www.sf-encyclopedia.com/entry/scientific_romance

⁵¹ Internet: <https://io9.gizmodo.com/before-science-fiction-romances-of-science-and-scienti-5870883>

Man, The War of the Worlds, The First Men in the Moon, Food of the Gods, In the Days of Hardcover. ⁵²

The Time Machine

In 1895, Wells wrote his debut novel entitled *The Time Machine*. It is the first and most brilliant of Wells' novellas exploring contemporary scientific theories which takes the "Time Traveller" through the fourth dimension of time to reach the year 802, 701. He is at first delighted by the flowery landscape and idyllic lives of the pleasure-loving Eloi and is befriended by one of them, the child-like Weena. The Thames runs clean and the Kensington Science Museum stands as a deserted green porcelain palace amid parkland. But he finds that when progress ended the stimulus of the struggle for existence, humanity divided into the effete vegetarian Eloi and the flaccid sinister Morlocks, who live in an industrial underworld and eat the flesh of Eloi they kill by night. His only weapon against the Morlocks proves to be the one human invention surviving the intact in an abandoned museum, the safety match. A new Prometheus, he brings fire back to Earth to free his time machine from their grasp and return to the present. In a final coda, he moves ahead three million years to see the final ending of the Earth in the planetary system. ⁵³

Wells was the precursor of modern science fiction in his combination of down-to-earth realism and conjecture, and in his use of fantasy to examine contemporary issues. The hedonistic Eloi offer a mordant comment on the fin-de-siècle aesthetic threat. The time traveller shares an identity with both the Eloi and the Morlocks, for he is both cultured and meat-eater. The novel centrally questions the optimistic view of social progress of the nineteenth century. ⁵⁴

As I have already mentioned, before Wells wrote *The Time Machine*, he had written a fragment entitled *The Chronic Argonauts*. *The Chronic Argonauts* later developed into the famous final version of *The Time Machine*, with the bulk of re-writing and new writing being done in 1894. Nevertheless, the differences between the two works are much more apparent than the resemblances. ⁵⁵

⁵² Internet: http://www.sf-encyclopedia.com/entry/scientific_romance

⁵³ James, L. (2006) *The Victorian Novel*. United Kingdom, Blackwell Publishing, page 185-186

⁵⁴ James, L. (2006) *The Victorian Novel*. United Kingdom, Blackwell Publishing, page 186

⁵⁵ Future Tense: The Story of H. G. Wells, BBC Documentary, 2016, In Youtube [online], 17. 09. 2016, [cit. 2020 06-01]

The Island of Dr. Moreau

H. G. Wells' scientific romance *The Island of Dr. Moreau* returns to the overweening scientist theme. Moreau is another example of the hubristic scientist who seeks to outdo nature by trying to create human beings from the body parts of animals. His island is "peopled" by the strange hybrid creatures which result from his experiments and which are kept in line (in a grotesque parody of human society) by the Law, "certain Fixed Ideas implanted by Moreau in their minds, which absolutely bounded their imaginations...beyond any possibility of disobedience or dispute."⁵⁶ The novel relates the events which ensue from the disturbance of Moreau's rule of law by the arrival of an outsider, Prendrick, from whose point of view the narrative is told. Prendrick's narrative enacts a degeneration or reversion fantasy, as the creatures lapse back into animality, their natural instinctive animal violence having been rendered more grotesquely violent by Moreau's tampering with it.⁵⁷

The Invisible Man

Wells' novel entitled *The Invisible Man* served as an inspiration for many movies. The main character of this novel named Griffin is quite similar to Raskolnikov, who is the main character of the novel entitled *The Crime and Punishment*, written by F. M. Dostojevsky. Griffin is very choleric and egocentric. He feels not to be appreciated by the whole world. He does his best in order to increase his own ego. He kills his own father in order to gain money for his own scientific discovery of invisibility. However, he makes only his own body invisible, not clothes. Nevertheless, he uses his invisibility in order to commit crimes such as burglaries and he does not feel bad for it. Despite being invisible, he becomes an outlaw and the whole society chases him. People he believes betray him and all his plans, such as invisible army terrorizing mankind, fail. At the end of this novel, as the main character dies, he becomes visible.⁵⁸

The War of World

The War of World is considered as Wells' most famous novel of the encounter with difference and one of the most famous science fiction novels at all. One of the reasons this novel has had such a lasting impact on the traditions of science fiction is connected with the way Wells is able to work his material into a sort of wrought, mournful beauty, something akin into

⁵⁶ Deirde, D. (2006) *The Cambridge Companion to The Victorian Novel*. Cambridge Press, page 208

⁵⁷ Deirde, D. (2006) *The Cambridge Companion to The Victorian Novel*. Cambridge Press, page 208

⁵⁸ HUDSKÝ, Stanislav (2003). *Jiné světy za dveřmi nevyzpytatelného pana Wellse*. Doslov. In: *H. G. Wells: Superaktivátor*. Praha. ŠEL, page 238 – 239

poetry. He takes a perfectly ordinary man to an ordinary place, Woking, and then he imagines the extraordinary erupting into it, in the form of a giant cylinder crashing to Earth from Mars. Tentacled Martians climb out of this cylinder to make war upon humanity from towering mechanical tripods, laying waste to South East England before eventually succumbing to Earthly bacteria against which they have no natural defence.⁵⁹

The work is a statement against colonialism and the idea of Social Darwinism, which was all the rage at the time. Wells suggested that the best argument against Social Darwinism is to take the people who are at the top of the chain, put something above them and ask: how much do you like this idea now? But it is much more ambiguous about things like religion and the role of military forces, especially in a particularly heroic scene where a British naval ship sacrifices itself so that refugees might escape the conquering Martians. *The War of the Worlds* is a novel of big ideas, which forces the readers to reconsider how they think about the world they live in, especially about the way how it suggests microbes would outshine all of humankind's most powerful defences.⁶⁰

The Food of The Gods

The Food of the Gods is Wells' lesser known work of science fiction (1904) wreaking in satire, in which so-called "scientists" invent a superfood that grows children into giants. Actually, they hope to create a new growth agent for food with beneficial uses to mankind. The main theme of the novel is However, they find that the spread of that material is uncontrollable. Giant chicken, rats and insects run amok, and children given the food stuffs experience incredible growth and illnesses. Over the years, people, who have eaten this specially treated food, find themselves unable to fit into the society where ignorance and hypocrisy rule. These "giants," with their extraordinary mental powers, find themselves shut away from an older, more traditional society. Intolerance and hatred increase as the line of distinction between ordinary people and giants is drawn across communities and families.⁶¹

The First Men in the Moon

The First Men in the Moon is a story about lunar exploration. In this novel, a scientist invents a metal that resists gravity, and constructs a sphere of this material inside which he and a friend are able to float off the face of the Earth and eventually make their way to the Moon.

⁵⁹ Roberts A. (2000) *Science Fiction*. London, Routledge 11, Fetter Lane, page 62

⁶⁰ The History of Sci Fi – H. G. Wells – Extra Sci Fi #2 In Youtube [online] 14. 03. 2018 [cit. 2020 – 06 – 01]

⁶¹ Internet: <https://americanliterature.com/author/hg-wells/book/the-food-of-the-gods/summary>

They discover that the Moon is inhabited by a sophisticated extraterrestrial civilization of insect-like creatures they call “Selenites”.⁶²

When the Sleeper Wakes

When the Sleeper Wakes is a science fiction dystopian novel, which is not the part of the collection *The Scientific Romances of H. G. Wells* but deserves to be mentioned. It is a cautionary tale of a Rip Van Winkle-like character named Graham, who takes drugs to cure insomnia and falls into coma. He awakens after two hundred years to find himself the richest man in the world. He later learns that he has inherited huge wealth which has been accumulated during his cataleptic nap. This world is ruled by technology and a totalitarian state corporate regime. Over the years, the trustees and the “White Council” have used his wealth to establish a vast political and economic world order. The protagonist, Graham, a socialist before his fateful coma, dies leading a doomed uprising of the proletariat.⁶³

Men Like Gods

It is a “scientific fantasy” novel about two scientists who are set in parallel universe, in a country named Utopia. They transport several people from the Earth as a part of their experiment. Mr. Barnstaple is one of the them and, moreover, he is one of the main protagonists of this novel. This character is liberally-oriented and he, along with other people, has an opportunity to observe, how a future utopian society works. The society criticises private ownership of the previous world, strongly attacks religious superstitions, but emphasises free evolution and education.

Wells wrote this novel in order to show that he did not believe in direct transition to communism, which was happening in that time in the Soviet Union.⁶⁴

⁶² Roberts A. (2000) *Science Fiction*. London, Routledge 11, Fetter Lane, page 60

⁶³ Deirde, D. (2006) *The Cambridge Companion to The Victorian Novel*. Cambridge Press, page 208

⁶⁴ Stříbrný, Zdeněk. *Dějiny anglické literatury 2*. Praha: Academia, 1987, page 604

4. Novum in H. G. Wells' Literature

As Darko Suvin said, the central novum of any science fiction work should be considered within the bounds of scientific reason. If a work contains a novum outside “cognitive logic” it would not be correct to classify the work as an example of science fiction. Science fiction concerns itself with the nova based on our understanding of logic and science. As Herbert George Wells did not mean to write science fiction genres but scientific romances, it is clear that science in general is the very major theme of all these works.⁶⁵

The War of World is considered as the most famous novel of the encounter with difference. Wells potently imagined nova in this novel symbolically distil the concerns of the age. His Martians are imperialists who use their superior technology to invade a nation, England, which had been accumulating its own Empire in part because of a superior technological sophistication. In other words, the arrival of the Martians and their mechanised brutalities are the symbolic forms Wells chose to explore a deeper set of concerns: the concerns about the British (rather than the Martian) Empire, about the violence of Empire-building and about the anxieties of otherness and the encounter with otherness that Empire imposes on the Imperial people.

The oscillation between the author's “zero world” induces the narrative necessity of the means of reality displacement. Suvin saw there two such devices: a voyage to a new locus and a catalyser transforming the author's environment to a new locus. Wells' *Time Machine* could be an example “a voyage to a new locus” device and *The Invisible Man* serves as an example for “transforming author's environment to a new locus” device. *The Time Machine* seems better suited to a sudden introduction of a new reality and *The Invisible Man* could be a gradual introduction of a new reality. The time machine and the ability to become invisible are definitely nova and surely stay nova forever.⁶⁶

In the novel *First Men in the Moon*, what is surely considered as a novum is a metal sphere which helps the two main characters to land on the Moon. The sphere and the whole voyage to the Moon itself represent a scientific project led by Mr. Cavor, who is a scientist as well. What is also new for the reader is the life on the Moon, especially the Selenites, the inhabitants of the Moon. Nevertheless, can we call it the novum? As Darko Suvin points out, only scientific things are considered as the novum. Neither the Selenites, nor different inhabitants of the Moon, probably exist in the real world. Nevertheless, in the book, the Selenites are considered as ordinary inhabitants of the Moon. They have the same meaning for

⁶⁵ Internet: <https://newhumanist.org.uk/articles/437/the-science-of-fiction>

⁶⁶ Suvin, D. (1979), *Metamorphoses of Science Fiction*, New Haven and London, Yale University Press, page 71

the Moon, like people have for the Earth. So, I would consider it as a controversial question if the Selenites can be considered as the novum or not.⁶⁷

The construction of the atomic bomb should be the novum of the novel, entitled *The World Set Free*. Nevertheless, this could be speculative as well. From the point of view of the reader of the 21st century, there is nothing surprising. One could say that this novel was based on the real event, on dropping bombs on Hiroshima and Nagasaki by the United States. Nevertheless, the fact is that the novel was written in 1914, much earlier than the real atomic bomb was constructed. Therefore, for the reader of Well's era, the atomic bomb is definitely considered as the novum.⁶⁸

The short story "The Land Ironclads" is the same case as *The World Set Free*. The main symbol of the novel is an armoured vehicle, called the land ironclad, and it is similar to the tank. The reader of the 21st century would say that this short story is based on the Battle at Somme of the First World War. However, it was written about 15 years earlier. So, for the readers of the turn of the 19th and the 20th centuries, the armoured vehicles called the land ironclads would be the novum.⁶⁹

The main symbol of the short story, "The Crystal Egg," is a crystal which serves for observing the life on a different planet, probably, on Mars. This symbol is also considered as a prediction of wireless transmission of picture, reminding television or skype. However, an invention like this have not been seen in the real world. Nevertheless, the crystal could be considered as the novum in this short story.⁷⁰

⁶⁷ Internet: https://en.wikisource.org/wiki/The_First_Men_in_the_Moon

⁶⁸ Internet: https://en.wikisource.org/wiki/The_World_Set_Free

⁶⁹ HUDSKÝ, Stanislav (2003). *The Land Ironclads*, In: *H. G. Wells: Superaktivátor*. Praha. ŠEL, page 179 – 197

⁷⁰ HUDSKÝ, Stanislav (2003). *The Crystal Eggs*, In: *H. G. Wells: Superaktivátor*. Praha. ŠEL, page 23 – 37

5. Comparison with Jules Verne

5.1. Jules Verne: Life

Jules Verne was the first son born to Pierre and Sophie Verne. He was expected to become a lawyer. However, that expectation conflicted with his nature because he was very adventuresome. When he was eleven, he ran away from home and attempted to set sail from Nantes on a departing ship. However, his parents caught him and punished him. Verne promised his mother that from that moment he would travel only in his imagination. So, he made an effort to become a lawyer, but found it as a boring profession.

While studying in Paris, Verne met and befriended the famed writer Alexandre Dumas, the author of *The Three Musketeers* and the “father of the historical romance.” Verne recalled his childhood fascination with the literature of adventure, such as Daniel Defoe’s *Robinson Crusoe*. With the encouragement of Dumas, Verne left the security of his law practice to write.

Verne was a keen traveller. Some of his novels are based on the moments he experienced. In 1859 he visited England and Scotland. In 1861, he travelled to Scandinavia and in 1867 to the United States. He also visited South Africa in 1878 and in 1881 he travelled to Germany, Denmark and to the Netherlands.

By 1860 Verne began to regard himself as a professional failure. His writings did not earn much income, and he was accused of living off the income of his wealthy wife. However, Verne was advised to do for science what Dumas had done for history. Verne acted on the advice, and the firm of Hetzel and Company published Verne’s fantastic voyages beginning with *Five Weeks in a Balloon*. The work was an immediate success, and Hetzel gave Verne a lifetime contract. His career as the creator of what would be called “science fiction” had begun.

On 24 March 1905, while he was ill with diabetes, Verne died at his home in Amiens. His son, Michel Verne, oversaw publication of the novels *Invasion of the Sea* and *The Lighthouse at the End of the World* after Jules's death. In 1989, Verne's great-grandson discovered his ancestor's unpublished novel *Paris in the Twentieth Century*, which was subsequently published in 1994.⁷¹

⁷¹ Cf. Fry, C. George, Salem Press Biographical Encyclopedia, 2020

5.2. Jules Verne: Literature

When we talk about an extraordinary writer in old times, who gave wonderful writing in the fiction world, the name of Jules Verne comes into our minds. At the age of thirty-five, Verne found his life's work. In his remaining forty-two years he wrote more than sixty "scientific romances," averaging two books per year and winning the reputation of the founder of science fiction.

Verne was keen on geography and science, which served as a basis for the writing of science fiction. He wrote about the world's facts and the most wonderful part of his writings is connected with the references to the objects that are developed today, while at his times there was no one to think about them or there was even no concept of such a development. Due to these reasons this author got a lot of fame in today's world. People living in the present century admires his writings a lot and it also must be noticed that biggest movie makers have taken the movie ideas from his novels and in this way many big screen movies are made on the basis of his thoughts.⁷²

Jules Verne was particularly adept at stories of fantastic voyages. The voyage to the centre of the Earth follows its protagonists down the shaft of an extinct Icelandic volcano into the hollow space at the Earth's core. Its narrative and descriptive evocations of the sublime give it an imaginative potency. In particular, Verne's vision of enormous subterranean caverns filled with primal oceans containing dinosaur monsters function as an effective symbol of the same unconscious arena represented by so many Gothic cellars, dungeons and caves.

Other works by Verne are grounded in a particular, rationalist perspective on the virtues of technology. We can see this in much-filmed *Twenty Thousand Leagues Under the Sea* with its high-tech submarine the Nautilus or in *From the Earth to the Moon*, in which the protagonist's spaceship achieves escape velocity by fired from an enormous cannon. All Verne's books are set in a version of his present day, and when he invented such science fictional props as a spaceship, he was keen to work them from existing scientific principles. The principle of lunar exploration outlined in *De la terre à la lune* may seem outlandish to us, but Verne thought it preferable to the sort of device imagined by his contemporaries.⁷³

Verne's novels predicted such twentieth-century realities as helicopters in the skies, submarines under the seas, and space travel beyond the earth. In *The Begum's Fortune*, Verne predicted both poison gases and rocket-propelled missiles, while in *For the Flag*, he anticipated

⁷² Cf. Fry, C. George, Salem Press Biographical Encyclopedia, 2020

⁷³ Roberts A. (2000) *Science Fiction*. London, Routledge 11, Fetter Lane, page 62

the use of high explosives (atomic energy) to terrorize international trade. Verne, in fact, helped to create what he described in fiction. Simon Lake, one of the developers of the modern submarine, stated in his autobiography that “Jules Verne was in a sense the director-general of my life.” I. O. Evans, an authority on the history of science fiction, felt that “Verne and Wells may have done far more than to foretell such developments; they may actually have helped to bring them about.”⁷⁴

In 1863, Verne wrote a more serious nonfiction work *Paris in the Twentieth Century*. It’s one of the first novels Jules Verne wrote. In this book, he suggests that by the year 1960, the society would have developed to the point that it valued only business and technology. It’s a grim dystopia that warns of some of the social horrors that the technological marvels he predicted might bring. Verne’s publisher at the time rejected this manuscript because he found it too unbelievable. Too radical. The book was not published until it was rediscovered in 1994, a hundred and thirty-one years after Verne had written it. It’s one of his most lyrical and thoughtful works. If he had been allowed to publish it, probably he would have combined hard sci-fi with top-tier social critique and would have created an entirely different direction for the genre.⁷⁵

The influences on Verne’s writing were many and complex. He was keen on reading of scientific literature, but he was especially indebted to the American author Edgar Allan Poe. Poe’s short story “Hans Phfall,” which described a balloon trip from the Earth to the Moon, inspired several of Verne’s aerial adventures. Verne’s novel *Antarctic Mystery* was, in effect, an effort to try to complete Poe’s unfinished *Narrative of Arthur Gordon Pym*. From Poe, Verne learned about the power of plot and the necessity of fascination in effective writing. Verne himself also had an influential meaning. His literature meant an inspiration for the major writers of science fiction in the twentieth century, such as H. G. Wells or Isaac Asimov.⁷⁶

⁷⁴ Jules Verne. According to: Fry, C. George, Salem Press Biographical Encyclopedia, 2020

⁷⁵ The History of Sci Fi – Jules Verne – Extra Sci Fi #1 In Youtube [online] 07. 03. 2018 [cit. 2020 – 06 – 01]

⁷⁶ Jules Verne. According to: Fry, C. George, Salem Press Biographical Encyclopedia, 2020

5.3. Herbert George Wells & Jules Verne

The Englishman Herbert George Wells and The French writer Jules Verne remain, arguably, the two most famous writers of science fiction.⁷⁷ Jules Verne proved that a science fiction writer could be commercially successful, but the literary world saw Verne as a failure. At the time, his works were rejected as clunky pop fiction with little lasting merit, and he was even denied entry to the Academié Francais. Wells, on the other hand, was nominated several times for Nobel Prize in literature, and in his own day, he was considered as an important writer and social critic. His later works were said to had never reached the heights of his early novels. However, Verne and Wells are both said to be “the fathers of modern science fiction.”⁷⁸

Nevertheless, Jules Verne, who were 38 years older, was not happy about it and it was the reason why he started to consider Herbert George Wells as his rival. He considered him as an enemy and he was jealous that Wells was more popular than Verne. Moreover, Wells was also called “The English Jules Verne”. However, Wells was an ambitious writer, determined to capitalize on his early successes and make a great name for himself. He did not wish to be hailed as “the English Jules Verne”. He also did not like when people compared him with George Griffith. In his opinions the authors such as Dickens, Flaubert, Balzac, Turgenev or Zola were the authors who mattered, not Verne or Griffith.⁷⁹

Both Verne and Wells wrote deliberately popular fiction and worked within the traditions of popular publishing of their time. While Well’s writing grew out of his speculative, mass-market journalism, Verne struck up a lucrative deal with a publisher called Jules Hetzel, who marketed the novels under the popularising rubric of Voyages extraordinaires.

They both wrote a story about lunar exploration. Verne was the author of the novel *From the Earth to the Moon*. The novel by Herbert George Wells is entitled *The First Men in the Moon*. The novel is about a scientist who invents metal which resists gravity and constructs a small spaceship of this material inside which he and his friend are able to float off the face of the Earth and eventually to travel to the Moon. Verne was not impressed and commented on Well’s novel, getting the details wrong to be doubly disdainful:⁸⁰

I make use of physics. He invents. I go to the moon in a cannon – ball,
discharged from a cannon. Here is no invention. He goes to Mars in an airship,

⁷⁷ Internet: https://link.springer.com/chapter/10.1057/9780230554658_7

⁷⁸ The History of Sci Fi – H. G. Wells – Extra Sci Fi #2 In Youtube [online] 14. 03. 2018 [cit. 2020 – 06 – 01]

⁷⁹ Wagar, Warren W, H.G., *Wells: Traversing Time*. Wesleyan University Press, page 115

⁸⁰ Roberts A. (2000) *Science Fiction*. London, Routledge 11, Fetter Lane, page 60

which he constructs of a material which does away with the laws of gravitation.

That's all very well...but show me this metal. Let him produce it.⁸¹

He laughed at H. G. Wells' books because in comparison with his literature, Wells' literature was based on his fantasy. However, the reality is that Wells' literature was more successful as far as prediction of future event. Both authors wrote several works because they believed the contents of their works would become a reality. While Verne wrote about inventions which were in a phase of experiment or realization in his time, Wells predicted many discoveries which he made up himself in his mind.

However, the reality is that Wells' literature was more successful as far as prediction of future event. Both authors wrote several works because they believed the contents of their works would become a reality. While Verne wrote about inventions which were in a phase of experiment or realization in his time, Wells predicted many discoveries which he made up himself in his mind.⁸²

The difference between the two writers lies in their thought and concepts. Jules Verne wrote more technically, and his writings were more technical than the works of H. G. Wells. He mentioned more scientific theories. Another major difference lies in their concepts of talking about the living beings. It is commonly said that Herbert George Wells thought quite positively as far as mankind is concerned. He was very open minded and very outspoken. He mentioned it clearly to the authorities that they must not imply such and such rules upon the mankind very straightforwardly. Another difference in their writing lies in their views, Jules Verne writes in such a way where he himself stands as the third party, as far as Wells is concerned, he writes as a reporter. It must be noticed that Wells thought quite negatively about technology and he used fiction more in his writings.⁸³

Wells, though in some senses a less attractive character than Verne, provided SF with a different model; a series of more thoroughgoing Feyerabendian protocols that dramatized not stasis but radical change, and are in fact so deeply embedded in an ideology of change that we might call them 'revolutionary'. In contrast to Verne's static characters in motion, Wells' characters are more complex individuals who, more or less, passively experience adventure,

⁸¹ Parrinder, Patrick, (ed) (1980) *Science Fiction: its Criticism and Teaching*, London and New York, Methuen, page 7

⁸² HUDSKÝ, Stanislav (2003). *Jiné světy za dveřmi nevyzpytatelného pana Wellse*. Doslov. In: *H. G. Wells: Superaktivátor*. Praha. ŠEL, page 240

⁸³ Internet: <https://www.differencebetween.com/difference-between-jules-verne-and-vs-h-g-wells/>

not venturing further from home than they have to, often complacent and rather unadventurous.

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Children, especially boys, and adults loved Jules Verne's literature and probably even nowadays, people like reading most of Verne's novels such as *Twenty Thousand Leagues Under the Sea*; *Journey to the Centre of the Earth* or *Around the World in Eighty Days*. In comparison with Jules Verne, Wells' science fiction short stories and novels are said to full of more advanced scientific thinking. Probably it may be a reason why most of his literary works became obsolete and only *The Time Machine*, *The Invisible Man* and *The War of Worlds*, are the only novels which are still known. Verne works are works which can amuse an ordinary reader. Especially young boys. As far as science fiction literature by Herbert George Wells, only scientists such as physicists or chemists would appreciate his novels such as *The World Set Free* or *The First Men in the Moon*.⁸⁵

Wells offered a narrower but perhaps no less important lesson for science fiction writers. It was his dictum that the power of science fiction was to make them magical, believable. He knew that invisibility or time travel were not actually possible, but they were good lenses for allowing him to examine society, so he created the parallel pillar to Verne's rigorous, detailed hard-science fiction.

This was a pillar in which any technical discussion of the mechanism or workings of the technology were simply there to aid the reader in suspending disbelief, because once the reader bought in, the author could get on with the real work of exploring the Big Idea.⁸⁶

⁸⁴ Internet: https://link.springer.com/chapter/10.1057/9780230554658_7

⁸⁵ Hilský Martin, ed. *Dějiny anglické literatury 2*. Praha: SPN, 1988, page 212

⁸⁶ The History of Sci Fi – H. G. Wells – Extra Sci Fi #2 In Youtube [online] 14. 03. 2018 [cit. 2020 – 06 – 01]

6. Relationship to the Future

People experienced technical development, industrial revolutions, socialistic and utopian movements of thinking, development of capitalism in the 19th century. So, this century was characteristic with its overrun to the future. Tomorrow was more important than today. The most frequent question was: How will tomorrow look like? And phenomenon Wells was established and offered answers about the future to the readers.⁸⁷

Wells was very much a man of his time. This was an age of extraordinary scientific progress and with Christianity, apparently in headlong retreat the Victorians had elevated new God in its place they worshiped of the altar of science. People have begun to worry about the future of Britain, which could see that Germany was becoming a big rival and one reason was that the German government was investing in the stuff investing in science and technical education. The government were looking for scientists, so when Wells got good marks for science exams, he got the letter from the government. The government suggested him to go to study The Normal School of Science at South Kensington.

By that time Wells seemed set fair for the future of Victorian respectability. As the Victorian age gave way to the twentieth century, the wheels of progress turned ever faster, and Wells soon found himself in a world where science fiction meant scientific fact. He wanted his writing to be useful. To do something. He did not want his novels to be like great paintings or like a great Cathedral. He wanted art to be like a marketplace or a road. He wanted art to be beautiful and also to do something.

At the end of his life, Wells' warning about the misuse of science had come true. He had foreseen the horrors of aerial warfare, atomic bomb atrocities carried out by not by morals or Martians, but by modern man.⁸⁸

6.1. Futurology

Futurology is defined as “the study of the future”. Futurology or future studies is the systematic and interdisciplinary forecasting of technological advancement and other environmental trends in order to predict how people will live and work in the future. It could be considered as a branch of the social sciences and parallel to the field of history. The main aim of future studies is to understand what is likely to continue and what could plausibly change.

⁸⁷ HUDSKÝ, Stanislav (2003). *Jiné světy za dveřmi nevyzpytatelného pana Wellse*. Doslov. In: *H. G. Wells: Superaktivátor*. Praha. ŠEL, page 236 – 237

⁸⁸ Future Tense: The Story of H. G. Wells, BBC Documentary, 2016, In Youtube [online], 17. 09. 2016, [cit. 2020 06-01]

Foresight was the original term and Herbert George Wells used it in 1932 for the first time. W. Warren Wagar called him “the founder of future studies.”⁸⁹ He is considered as the one who paved the way for futurology. Based on his scientific studies, and understanding of human nature, Wells was able to predict future inventions, lifestyles and above all, their consequences.⁹⁰

A futurist does not attempt to predict the future. He tries to understand the big trends in the present and by studying them work out how they may develop, how they may play out what the interplay between those trends may be and how that will shape society and business, in fact, the world in decades to come.⁹¹

6.2. H. G. Wells and Future

Herbert George Wells was said to have understood the future better than the present time of his era. George Orwell cited that Wells had been too reasonable and sane to understand modern society. He was so much the man of the twentieth century that it is hard to believe that he spent most of his life living in the nineteenth century and he started his literary career in 1890s.

During one of his lectures, called *The Discovery of the Future*, he proved that we can study the future in the same way, like historians study the past. It led to establishment of futurology. He predicted the First and the Second World War. He knew that Hitler would end in the same way, like Napoleon ended when he got to Russia.⁹²

H. G. Wells' novels and short stories are mostly set in the future either specified or unspecified. Some of his ideas or discoveries later became reality and some of them not. Nevertheless, this fact can be also changed whenever in the far future.

Herbert George Wells is celebrated for invention of science fiction, but he also wrote dozens of books speculating about the future, asking how to reach for the best outcomes. He thought we were on a path to annihilation, and this was a surprising notion for readers enjoying him at the peak of his fame during the Edwardian era, when the British Empire still seemed prosperous and secure.

⁸⁹ Internet: <http://www.wnrf.org/cms/hgwells.shtml>

⁹⁰ Peck, E. & Peck, A, *Panorama of English Literature/Anglická literatura*. Infoa, 2002, chapter Literature before and during World War I

⁹¹ A History of Futurology and Futurists, In Youtube [online], 10. 08. 2016, [cit. 2020 06-01]

⁹² Stříbrný, Zdeněk. *Dějiny anglické literatury 2*. Praha: Academia, 1987, page 603 – 604

No writer is more renowned for his ability to foresee the future than H. G. Wells.⁹³ His books brought him world fame while he was still a young man and later in life he practised as an overt futurist. He wanted to warn the world about the danger of wars, and he wanted to shape a better society.⁹⁴

Wells rejected the idea that the future is unknowable. He believed that it was possible, through the use what he first called “inductive history” to chart the possibilities of the future and to push people into making sensible use of those possibilities. “Inductive history” was later called “Human Ecology” which was defined as working out of “biological, intellectual and economic consequences. James Gunn wrote in *The Science of Science-Fiction Writing*, that Wells was the first futurologist who invented tomorrow.⁹⁵

In 1881, he won a scholarship to the Normal School of Science (now Imperial College). He met Thomas Huxley who taught him biology. Thomas Huxley was known as “Darwin’s bulldog” because of his championing of evolutionary theory. While studying at the Normal School, Wells tinkered with short stories and essays. Among these, “The Universe Rigid” anticipated some of Albert Einstein’s ideas. “The past means looking into certain direction, while the future means looking the opposite way,” Wells wrote. “Time is merely a dimension, analogous to the three dimensions of space.” This notion fed into his first, immensely successful novel, *The Time Machine*.

6.3. Social Predictions

In 1901, at the age of 35, he wrote *Anticipations of the Reactions of Mechanical and Scientific Progress upon Human Life and Thought*, generally known as *Anticipations*. It became a best-seller. Taking the developments in mechanized transport as a point of departure. Wells told his readers that they lived through a reorganization of human society that would alter every dimension of life. Wells described the growth of cities increasing social mobility the disappearance of servants the explosive growth of motorised vehicles the building of dedicated highways for vehicles the onset of mechanised world wars the ascendancy of English as the world language and the emergence of global geopolitics blogs and he foresaw all of this in 1901.⁹⁶

⁹³ Internet: <https://theconversation.com/we-should-remember-hg-wells-for-his-social-predictions-not-just-his-scientific-ones-56845>

⁹⁴ A History of Futurology and Futurists, In Youtube [online], 10. 08. 2016, [cit. 2020 06-01]

⁹⁵ Internet: <https://www.smithsonianmag.com/arts-culture/many-futuristic-predictions-hg-wells-came-true-180960546/>

⁹⁶ A History of Futurology and Futurists, In Youtube [online], 10. 08. 2016, [cit. 2020 06-01]

It seems Wells also foresaw the sexual revolution which got underway in 1960s, around 15 years after his death. Wells had liberal attitude to sex himself. In *Anticipations*, he predicted that strict morality will disappear and there will be sexual freedom for men and women.

Towards the end of his life, Wells called for a global government to be set up and in the 1940s he even foresaw that a global network of source was developing he imagined connecting all of libraries in the world together in what he called “ganglia” to create a world brain and he was deeply worried about the effect, that rapidly developing technology would have on future employment prospects. He said during one of his interviews.

We have increased the productivity of our social, of our economic organization so growth that’s a smaller and smaller proportion of people who produced everything we believe. The continent is the larger and larger number of people are being forced out of employment and unable to consume.⁹⁷

Perhaps the biggest disappointment to Wells was the failure of his idealized political vision, a world government, which he described in *A Modern Utopia*. He was a committed socialist who hoped that a global “New Republic” would assure peace in perpetuity. But there is a reason to think that Wells’ idea of a world government became reality in at least small ways. A lot of international agencies such as IMF, NATO, The European Union, sprang up after the Second World War. It meant hopes that a kind of international framework would keep world war from happening again. None of these organizations were truly global but they meant the step toward the more peaceful and organized world society, that Wells envisioned.⁹⁸

After World War II. Broke out, Wells started campaign for universal human rights. In his final years Wells left the slim volume called *The Rights of Man* that would become the inspiration for one of modern history’s most important documents *The United Nations Declaration of Human Rights*. When the architects of the rights of humanity declaration came to do their work, they relied heavily on while Wells is text. This is achievement which will live forever.

Wells died in 1946 with a feeling that he had witnessed that many of his darkest predictions were coming true. He warned that irrational politics was about to destroy all of us, and he urged a complete reinvention of how we manage global affairs. The summer of the year

⁹⁷ A History of Futurology and Futurists, In Youtube [online], 10. 08. 2016, [cit. 2020 06-01]

⁹⁸ Internet: <https://www.smithsonianmag.com/arts-culture/many-futuristic-predictions-hg-wells-came-true-180960546/>

when Wells died, one of the most wayward and unpredictable political leaders we have ever encountered was born. What would Wells have made of US President-elect Donald J Trump?⁹⁹

6.4. Scientific predictions

In 1901, Wells predicted moon landing in a novel *The First Men in the Moon*. The main protagonists undertake lunar adventure in a small spaceship called sphere. This was said to have anticipated the 1969 Apollo Moon Landing. The real event was much shorter and less adventurous in comparison with the novel.¹⁰⁰

In 1914, he wrote a novel *The World Set Free* which was considered as a prediction of atomic bomb. It was an imagination of an atomic bomb, exploding continuously for weeks at a time, creating “a furious radiation of energy that nothing could arrest”. Although the technical details were wrong, Wells was on target, when he claimed: “a man could carry in a handbag an amount of latent energy sufficient to wreck half a city.”¹⁰¹

Soldiers at the dawn of the 20th century still thought in terms of rifle brigades and courageous cavalry charges on traditional battlefields, but Wells knew they were behind the times, and that a massively industrialised arms race was about to trigger a global war. He predicted the coming of armoured tanks, being called land ironclads, aerial bombing, and the mass destruction of civilian populations.¹⁰²

However, Wells had other big ideas that haven't come to fruition, though of course there's always the chance that his vision extended farther into the future than our own time. As of this writing we've not been invaded by Martians. Human invisibility also remains elusive though science is making progress in that direction. The time machine, an invention introduced in 1895 novella, hasn't been worked out either.

⁹⁹ Internet: <https://eandt.theiet.org/content/articles/2016/12/hg-wells-the-worlds-first-professional-futurologist/>

¹⁰⁰ Internet: <https://www.indiatoday.in/education-today/gk-current-affairs/story/6-true-future-predictions-hg-wells-1345657-2018-09-21>

¹⁰¹ Internet: https://wetenschapsschool.nl/chapter/History_19_The+Atomic+Bomb.html

¹⁰² Internet: <https://eandt.theiet.org/content/articles/2016/12/hg-wells-the-worlds-first-professional-futurologist/>

7. Conclusion

The main aim of the introductory part of my diploma thesis was to introduce the personality of Herbert George Wells and his career as a writer. Though he was a writer of many genres, I primarily focused on his science fiction literature. So, as a confirmation that my diploma thesis is about Herbert George Wells as a science fiction writer, I also involved a chapter about science fiction genre itself, including several definitions and history. Moreover, there is one brief chapter about novum, which is a term defined by Darko Suvin and which occurs just in science fiction pieces of literature.

I also found out one fact I had not known before. It was quite surprising for me that the term “science fiction” was first used in 1926 though Herbert George Wells’ wrote most of his science fiction pieces of literature in 1890s and at the beginning of the 19th century. It is connected with the fact that he called this genre “scientific romance.”

The chapter about the relationship between Herbert George Wells and Jules Verne gave me a possibility to meet the personality of Jules Verne as well. In spite of the fact these two are frequently compared and according to some opinions, Herbert George Wells is a better writer than Verne, I think that ordinary people would prefer Verne to Wells. As I have mentioned in that chapter, both adults and children like reading Jules Verne. Probably, some of Verne’s books may be written directly for schoolboys. Wells’ book may not be for an ordinary reader. But scientists such as physicists, chemists or biologists would surely highly appreciate Wells’ science fiction literature.

The content of the last chapter is about the relationship of Herbert George Wells to the future, which is the very main target of this diploma thesis. Actually, Wells’ work could be divided into the social and scientific predictions. My diploma thesis primarily focuses on scientific predictions by Herbert George Wells. I briefly mention both social and scientific predictions in this chapter. Nevertheless, the second part of my diploma thesis focuses just on scientific predictions.

I am not sure if I agree with Wells’ attitude to literature. The attitude that literature should be useful. In my opinion, there is not necessary for people to read just useful literature. Reading books should also exist in order to amaze people. Nevertheless, if people who were born in the second half of the 19th century had read all his books, they might have not found all

events from the first half of the 20th century so shocking. However, in my opinion, the readers of the 21st century would not be impressed by some of his works. Zdeněk Stříbrný states in his *Dějiny anglické literatury* that just *The Time Machine*, *The Invisible Man* or *The War of World* are the only Wells' books, which are known. I believe that even ordinary people enjoy these books. It's a pity that he wrote novels just in order to warn the society. He was very knowledgeable, he had rich imagination so he just could have written something in order to entertain people.

The way how Wells was able to think about the future is admirable. All his works or most of them are set in the future and some of them are considered as predictions. However, there is a reason to ask whether the word "predictions" is a suitable word. However, in respect to his novel *The World Set Free*, a physicist named Leo, who constructed atomic bomb, said that he had read H. G. Wells' *The World Set Free* earlier. Probably, he even admitted that he considered this novel as inspiration. His short story, "The Land Ironclad" may be the same case. Therefore, there is a reason to think about, how many inventions and events happened just because someone had read H. G. Wells' works.

Wells must have written his books in order to warn the society. Probably he would have substituted the word "predictions" for "warnings." Unfortunately, some people might have understood his literature as the inspiration, not as the warning. Probably, people, who read his books, would get the following idea: "What if Wells had not become the writer?"

II. Practical Part: Literary Analysis

Introduction

The practical part of my diploma thesis focuses on the analysis of Wells' stories being considered as predictions of the future and their comparison with the real events, which are said to be predicted by stories written by H. G. Wells. I also mention novels, which are not considered as predictions of future, but one day this fact can be changed.

The practical part of my diploma thesis consists of the two main parts. The real predictions and the potential predictions.

In “*The Real Predictions*” part, I used short stories “The Land Ironclads”, “The Crystal Egg”, “The Diamond Maker”, “The Dream of Armagedon” and novels *The World Set Free* and *The First Men in the Moon*. Each of the stories means a separate chapter. Plots and basic information are parts of all chapters. As these works are said to have predicted future events, I also describe these events as parts of these chapters.

In the “Potential Predictions” part, I mention the novels *The Time Machine* and *The Invisible Man* as Wells' works, which have not predicted future events. However, Wells might have believed that the content of the works would become a reality one day. And it can really happen whenever in the future. Moreover, the main purpose of not only those works, but all his works, was to warn the society.

The Real Predictions

1. The Diamond Maker

1.1. The Short Story

The short story entitled *The Diamond Maker* is understood as a prediction of creating diamonds by people. The short story *The Diamond Maker* was published in 1894 and diamonds have been made by people since 1955. *The Diamond Maker* was included in *The Stolen Bacillus and the other Incidents*, the first collection of short stories published in 1895.

1.2. The Story

The only theme of this story is a conversation between an unnamed narrator and a scruffy man who says that he created diamonds on his own. The story is set in London and it is narrated in the first person.

At the end of the day, the narrator ends his day at work. He is too tired that he is unable to do different things. So, he goes to the river in order to relax by just gazing the river. Suddenly, he meets a weird guy who seems not to take care of himself very much. He looks like a tramp and starts conversation. Despite his scruffy appearance he talks like an educated man. The guy tells the narrator that he has spent years on a project to make diamonds. He has a bag of what appear to be uncut diamonds. One diamond is as big as a tip of thumb and the guy offers to sell it to the narrator for 100 pounds. The narrator seems to be confused about it at first. His opinion is that the guy's diamond is too big to be a diamond. As the conversation progresses, the narrator has a feeling he believes to what the guy says. Nevertheless, he does not have a feeling to be rich enough in order to spend 100 pounds. At the end of the story, the narrator and the scruffy man say goodbye to each other. Though the narrator gives his business card to the weird guy, they never meet again.

The story ends by the narrator's thinking about what would have happened if he had risked it and had bought the diamond from the scruffy man.¹⁰³

1.3. Element of Prediction of the Future

The narrator seems not to believe him, so the scruffy man describes him a process of creating diamonds. He states that diamond production is about the exclusion of carbon from a special mixture. This process can be realised during certain heat and under certain pressure.

¹⁰³ WELLS, Herbert George: *Superaktivátor*. Praha. ŠEL, page 107 – 115

Afterward carbon crystallization happens as little diamonds. Finally, he says that time is an important factor during crystallization. If crystallization is hastened, small crystals of diamonds are the result. The scruffy man narrates about the explosions he caused by his effort to make diamonds. He also speaks about how he kept fire burning for two years. Finally, he states that when he extinguished the fire a few weeks ago, he found three big diamonds having an inch size.

1.4. The Real Event

Diamonds are nature's hardest substance, valued for their brilliance, luster, and durability, but are rare and expensive to mine. Man-made diamonds provide a cheaper, more readily available solution. Recent breakthroughs have produced methods for the mass production of synthetic gems, for both the jewel industry and for technology, but the history of man-made diamonds is over a hundred years old.

Diamonds are said to have been existed in India in 300 years before Christ. In that time diamonds were used for payments. India was the only source of diamonds till the 18th century. In 1725, in Brazilian Minas Geras, the largest diamond seam was discovered, and Brasilia became the most important diamond supplier in the world. The year 1867 was another milestone in the history of diamonds. The first African diamond, named "Eureka," was discovered in South Africa. The whole world considered this discovery as very important. In the following years, five large diamond seams were also discovered in South Africa.

Wells' story appeared a few years after the claims of James Ballantyne Hannay in 1879 and Ferdinand Frédéric Henri Moissan in 1893 that they had made artificial diamonds. Moissan had heated charcoal (a form of carbon) and iron in a furnace until the iron melted; then rapidly cooled, the iron would generate high pressure and transform the charcoal into diamonds. Others tried to repeat this experiment in later years, and very small diamonds were created. Nevertheless, commercially successful production of synthetic diamonds was not achieved until the 1950s.¹⁰⁴

However, in the 20th century, the world could see an example of making diamonds by people. William G. Eversole is considered as the first man who synthetized diamond. In 1952 he conducted an experiment with reproducible growth of a synthetic diamond at a low pressure with the use of carbon-containing gas. However, this procedure did not offer the possibility of commercial use because of time duration.

¹⁰⁴ Internet: <https://www.grantsjewelry.com/aprils-last-look-synthetic-diamonds/>

Simultaneously, there were carried out experiments, which should have simulated the natural formation of diamonds due to high pressures and temperatures (HPHT). In 1953, the Swedish company ASEA was the first to succeed in this field, and in the following year the HPTP diamond synthesis also succeeded in the American team at GE (General Electric). On February 15, 1955, General Electric laboratory in New York declared that on that day, the world had an opportunity to see diamonds created with hand, which was considered as the top of 125 year-long effort to reproduce the hardest and the most beautiful substance. This company was regarded as the pioneer of laboratory diamond-making. The diamonds were synthesized as a part of the Project Superpressure as announced by the GE Research Laboratories in 1955. Herbert Strong, Tracy Hall, Francis Bundy and Robert Wentorf were the main four researchers who created diamonds.

The production of diamonds progressed in the following way. The team constructed an ultrahigh pressure device, which was called "Diamond Press". This machine could concentrate and maintain tremendous pressure on a small area. The donut-sized chamber was surrounded by conical pistons that could produce a pressure of 1.5 million pounds per square inch (over 10 billion pascals) and 5,000 degrees Fahrenheit (2760 ° C).

Herbert Strong, Francis Bundy, Tracy Hall and Robert Wentorf became members of the American Hall of Fame of inventors in 2010.¹⁰⁵

¹⁰⁵ Internet: <https://www.novinky.cz/veda-skoly/clanek/synteticke-diamanty-oslavi-sedesatiny-92569>

2. The First Men in the Moon

2.1. About the Book

The scientific romance *The First Men in the Moon* is considered as a prediction of travelling to space, specifically a prediction of the first people landing in the Moon. Wells originally serialised the text in *the Strand Magazine* and published it in 1901. In the real world, the first people landed in the Moon in 1968.¹⁰⁶

The book is full of detailed descriptions. The novel is about 300 pages-long, but if there had been used Hemingway's Iceberg Theory, the novel would have been half shorter. There are detailed descriptions of various actions such as meeting of the two main characters, Bedford and Cavor and the construction of the small round spaceship, called sphere, which helped them to land in the Moon. The author also described the landscape of the Moon, the original inhabitants of the Moon called the Selenites, and moments where the two main protagonists were captured by the Selenites.¹⁰⁷

2.2. Life on the Moon

As I have already mentioned, the inhabitants of the Moon are called the Selenites. The Selenites seem to have common characteristics with people and insect. They resemble men in maintaining erect attitude and in having four limbs. The general appearance of their heads and jointing of their limbs is compared to insects. Their health seems to be very fragile. The narrator calls them the beetle people. If someone hits a Selenite to his body, it is as if he hit mushroom. The body is crumbled into pieces.

The author also describes several natural laws of the Moon. For example, as the Sun rises, the thin, frozen atmosphere of desolate landscape vaporizes, and strange plants begin to grow with extraordinary rapidity.

People weigh one sixth of their weight on the Moon. It means that gravity is not as merciless as on the Earth. In the morning after they landed, there is a moment when some huge landslide in the thawing air had caught both protagonists and they began to roll down a slope, rolling faster and faster, leaping crevasses and rebounding from banks, faster and faster. They collided and their heads hit each other. If something like this happened to them on the Earth, they would be dead. Running on the Moon would not be the same as running on the Earth.¹⁰⁸

¹⁰⁶ Internet: https://en.wikipedia.org/wiki/The_First_Men_in_the_Moon

¹⁰⁷ WELLS, H. G., *The First Men in the Moon* (Fontana Books, W. Collins Sons & Co. Ltd. Glasgow, 1960)

¹⁰⁸ WELLS, H. G., *The First Men in the Moon* (Fontana Books, W. Collins Sons & Co. Ltd. Glasgow, 1960), chapter Sunrise on the Moon

2.3. The Story

The main protagonists of this novel are Cavor and Bedford. Bedford moves to Lympsee, a small town, in order to have a space to think about writing his playwright. One day he meets a scientist, named Cavor. Cavor is as idealistic as Bedford is mercenary, and Wells makes use of this contrast in temperaments to impart some bite and irony to their dialogues and dealings.

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They undertake a voyage to the Moon. Before that Cavor develops cavorite, a material, which negates the force of gravity. The material is necessary for their journey.¹¹⁰ When they land on the Moon, they see a desolate landscape. However, the landscape changes rapidly after the Sun rises. Naturally, both protagonists go and research the surroundings of the Moon. Suddenly, they find out that they lost their spaceship.¹¹¹ They try to do their best in order to find it, but they are not successful. As time progresses, they become hungry and thirsty. After some time, they are captured by the Selenites. They give our protagonists something to eat, however, they imprison them. Nevertheless, Bedford and Cavor manage to escape. They agree they will separate and look for their spaceship. They also agree that if one of them find it, he will give a sign to the other one. Bedford is the one who finds the spaceship, but he cannot let Cavor know. Cavor is lost. So, Bedford takes some gold they found on the Moon and travels back to Earth by himself. By good fortune, the narrator lands in the sea off the coast of Britain, near the seaside town of Littlestone. He leaves his spaceship in the sea and goes to a hotel in order to have a rest. However, he loses it when a curious boy named Tommy Simmons plays there and shoots off into space. However, Bedford does not care, and he even has a feeling that the problem how to help to Cavor is not his problem anymore.¹¹²

Bedford writes and publishes his experience of travelling to the Moon in *The Strand Magazine*, then learns that "Mr. Julius Wendigee, a Dutch electrician, has picked up fragments of radio communications from Cavor sent from inside the Moon."¹¹³ The novel ends with Cavor's testimonies about the life on the Moon. He explains that Selenites exist in thousands of forms. Cavor also narrates that he teaches two Selenites English and describes the ways of

¹⁰⁹ WELLS, H. G., *The First Men in the Moon* (Fontana Books, W. Collins Sons & Co. Ltd. Glasgow, 1960), chapter Mr. Bedford Meets Mr. Cavor at Lympsee

¹¹⁰ WELLS, H. G., *The First Men in the Moon* (Fontana Books, W. Collins Sons & Co. Ltd. Glasgow, 1960), chapter Journey to the Moon

¹¹¹ WELLS, H. G., *The First Men in the Moon* (Fontana Books, W. Collins Sons & Co. Ltd. Glasgow, 1960), chapter A Lunar Morning

¹¹² WELLS, H. G., *The First Men in the Moon* (Fontana Books, W. Collins Sons & Co. Ltd. Glasgow, 1960), chapter Mr. Bedford at Littlestone

¹¹³ WELLS, H. G., *The First Men in the Moon* (Fontana Books, W. Collins Sons & Co. Ltd. Glasgow, 1960), chapter Astonishing communication of Mr. Julius Wendigee

teaching. He also narrates about the lunar leader. Unfortunately, he states that when he presented humanity to the Selenites, he described inhabitants of our planet as war-lovers. The Selenites are in touch with the Earth but after Cavor says that humans love wars, the Selenites interrupt contact with the Earth. Cavor's transmission is cut off as he tries to explain how to make favorite. ¹¹⁴

2.4. Interesting Point

As I have already suggested, at the moment after Bedford's return to the Earth, Wells mentions the name of Tommy Simmons. Tommy Simmons is a boy who plays with Bedford's sphere, touches some buttons, which results in the situation that the boy flies away. ¹¹⁵

Probably, the author used this character in order to recall his old school friend A. T. (Tommy) Simmons. In the study *H.G. Wells: Traverse in Time*, there is mentioned that in 1913 when Wells worked on his novel *The World Set Free*, he wrote a letter to Tommy Simmons and asked him for help with the research on atomic theory. Simmons, along with Richard Gregory, sent him suitable literature and Wells's work proceeded apace. ¹¹⁶

2.5. My Opinion

In my opinion, Wells based the character of Bedford on himself. As Bedford is a playwright, it could imply a kind of reference to H. G. Wells in spite of the fact, Wells wrote novels and short stories. Moreover, the novel is narrated in the first person by Mr. Bedford. Mainly, in the chapter "The Astonishing Communication of Mr. Julius Wendigee", Mr. Bedford states that he placed a manuscript in the hands of a literary agent who permitted it to be published in the Strand Magazine. As Wells published most of his works in the Strand Magazine, there I can see the biggest reason why Mr. Bedford is based on Wells.

At the beginning of the novel, there is a moment when Mr. Bedford gives up his literary plans and becomes Mr. Cavor's partner and joins to the project of travelling to space. Probably, Herbert George Wells expressed his dreams here. He might have wished to become a part of the project like this. Or he might have wished to meet a person like Mr. Cavor. A person who would help him to experience an event like travelling to space.

¹¹⁴ WELLS, H. G., *The First Men in the Moon* (Fontana Books, W. Collins Sons & Co. Ltd. Glasgow, 1960), chapter The Last Message Cavor Sent to the Earth

¹¹⁵ WELLS, H. G., *The First Men in the Moon* (Fontana Books, W. Collins Sons & Co. Ltd. Glasgow, 1960), chapter Mr. Bedford at Littlestone

¹¹⁶ WAGAR, Warren. (2004), *H. G. Wells: Traversing Time* (Wesleyan University Press, Middletown, CT06459), page 143

2.6. The Real Event

Landing on the Moon was the public event. The whole world knew about it. People even watched this event on TV or listened to the radio as live stream. In the novel, nobody knows it. It is a private thing of the main protagonists. Even their three helpers, who help them with the construction of the sphere, do not know what they work on.¹¹⁷

In 1861, John Fitzgerald Kennedy, the president of the United States declared that the American scientists would send the first men to the Moon till the end of that decade. At the time, the U. S. were still trailing the Soviet Union in space developments and America of the Cold-War era welcomed Kennedys' bold proposal. At first, this event was planned for the year 1970, but finally it happened earlier. The spaceship named Saturn V was launched from Cape Canaveral on July 16, 1969 and four days later, the first man landed on the Moon. The mission was named Apollo 11 and it was a part of the program called Apollo.¹¹⁸

Neil Armstrong, Edwin Aldrin and Michael Collins were the members of the crew. On 24th July 1969, Aldrin, said: "Here is the Tranquillity base! The Eagle landed!" The one, who is considered as the first man to walk on the surface of the Moon was Armstrong. Four hours later, he stepped from the Eagle to the Moon's dusty surface. While he was walking on the Moon, he made the statement "that's one small step for man, one giant leap for mankind". In that time, he was situated about 240,000 miles from Earth and billion people were listening his words at home. Aldrin was the second one who was walking on the Moon. Armstrong and Aldrin left the module for more than two hours and deployed scientific instruments, collected surfaces and took numerous photographs. Collins stayed in orbit around the Moon. Aldrin and Armstrong put the American flag on the Moon and they also left a sign on the Moon.¹¹⁹

On July 24, 1969, all three men came back to Earth safely. In comparison with *First Men in the Moon* novel, they spent just 21 hours and 36 minutes on the Moon and afterwards, they lifted off to rendezvous with Collins and begin the voyage back to Earth. After splashdown in the Pacific, at midnight on 24th July, the three astronauts spent 18 days in quarantine to guard against possible contamination by lunar microbes. During the following days and during a tour of 21 nations, they were hailed for their part in the opening of a new era in the human exploration of the universe. And Kennedy's wish came true.¹²⁰

¹¹⁷ WELLS, H. G., *The First Men in the Moon* (Fontana Books, W. Collins Sons & Co. Ltd. Glasgow, 1960), chapter The Building of the Sphere

¹¹⁸ Translated by Pochylý M, Půrová V, (2001) *Encyklopedie historie světa*, Ottovo nakladatelství s. r. o., - Cesty, Praha, page 438

¹¹⁹ Internet: <https://www.britannica.com/biography/Neil-Armstrong>

¹²⁰ Translated by Pochylý M, Půrová V, (2001) *Encyklopedie historie světa*, Ottovo nakladatelství s. r. o., - Cesty, Praha, page 438

2.7. Travelling to Space in General

Apollo 11 mission was not the first event, people undertook a voyage to the universe. Humans have always looked up into the night sky and dreamed about the endless space.

The technical development during the Second World War helped scientists to find out that travelling to the universe may be possible. Rivalry between the United States and the Soviet Union led to the Space races. Both sides had a feeling that travelling to the universe would make them prestigious. The Soviet Union was the first country, which undertook the voyage to the universe.

2.8. The Soviet Union

In August 1957, the Soviets successfully launched the world's first intercontinental ballistic missile (ICBM) and in October they launched the first Earth satellite, Sputnik 1. The launch of Sputnik inaugurated the Space Race.¹²¹

In 1957, the Soviets sent into space the satellite Sputnik 2 with a dog named Laika. It was the first time a living creature had travelled into space. However, Laika did not survive. Despite this, she was not the last dog to take flight. Others returned from orbit alive. After the successful 1960 joint flight of Strelka and Belka, Strelka later produced puppies, and Khrushchev gave one to President John F. Kennedy.¹²²

In 1961, the Soviet Union reached the other primacy when an astronaut named Jurij Gagarin became the first human to journey into outer space. He achieved a major milestone in the Space Race. His flight lasted 108 minutes and Gagarin reached an altitude 323 kilometres.

2.9. The United States

On December 1957 the U.S. made the first attempt to send the satellite into space. Its name was Vanguard. However, this attempt failed. Nevertheless, a month later, the U. S. sent there the satellite Explorer and this effort was successful.

In 1961, Allan Shepard became the first American who flew into space and one year later, the man named John Glenn took the historic flight, which made him the first American to orbit the Earth. He managed to do it three times in spaceship named Mercury.¹²³

¹²¹ Translated by Pochylý M, Půrová V, (2001) *Encyklopedie historie světa*, Ottovo nakladatelství s. r. o., - Cesty, Praha, page 438

¹²² Internet: <https://www.smithsonianmag.com/smithsonian-institution/sad-story-laika-space-dog-and-her-one-way-trip-orbit-1-180968728/>

¹²³ Translated by Pochylý M, Půrová V, (2001) *Encyklopedie historie světa*, Ottovo nakladatelství s. r. o., - Cesty, Praha, page 438

3. The Crystal Egg

3.1. The Short Story

The science fiction short story entitled “The Crystal Egg” is considered as a prediction of the invention of wireless transmission of picture. It is compared with television, but it may also remind the reader a long-distance communication between people, for example skype. The short story was published in 1897 and the prediction became a reality in 1926. The possibility to communicate via skype has existed since the beginning of the 21st century.

“The Crystal Egg” is often considered as a precursor of *the War of Worlds*, but there is no clear foreshadowing of the events that transpire in the novel.¹²⁴

3.2. The Story

The story is set in an antic shop, where various things are possible to buy. The antic shop is set in Seven Dials, a district in the West End of London. The owner of this shop is Mr. Cave, who lives with his wife and stepchildren. They treat him with contempt.

The main symbol of this story is a crystal with an egg-shape. This symbol is situated in Mr. Cave’s store. At the beginning of the story, there are two customers who are interested in buying it. But their interest makes Mr. Cave nervous. Despite saying that it costs five pounds, he changes his mind soon after and he says the crystal is not for sale. Unwillingness to sell it is a reason why Mr. Cave has an argument with his family days later. Suddenly, the crystal disappears. Mr. Cave pretends that he is shocked about it, but he knows what has happened very well. He brought the crystal to the home of his friend Jacoby Wace, who is Assistant Demonstrator of Anatomy at a nearby teaching hospital and he is interested in unusual people like Mr. Cave.

He spends every evening at Mr. Wace’s home and they both observe the crystal egg. Briefly, if he observes the crystal under angle of 37 degrees, he has a possibility to see the picture of an interesting landscape. They see creatures, which look like big birds. However, the heads of the creatures seem to be human-like. Their wings have no feathers. Cave and Wace observe that the creatures live in buildings with big gardens, similar to houses where people live however without windows and door. They guess that the planet, their observe may be a part of solar system because they see constellations such as the Bear, the Pleiades, Aldebaran and Sirius. The sky and sometimes two moons lead them think they may see life on Mars planet.

¹²⁴ Internet: https://en.wikipedia.org/wiki/The_Crystal_Egg

So, the inhabitants of this planet may be the Martians. Suddenly, Mr. Cave says he will be busy the following month, so they will not see each other for that time.

When Mr. Cave does not let Mr. Wace know for a long time, it seems weird to Mr. Wace, so he goes to visit him. When he knocks Mr. Cave's door, his stepson wearing a black suit opens to him and announces that Mr. Cave died and even had a funeral. Mrs. Cave announces Mr. Wace that the crystal egg has been sold. Though Mr. Wace tries to find it, he gives it up after one month of unsuccessful effort. The crystal egg is never found.

The short story ends with a reasoning about the origin of the crystal. The theory is that the crystal was an example of an inexplicable connection between two distant places. Probably, the crystal was transported to our planet in order to provide Martians close view on life on planet.¹²⁵

3.3. Element of Prediction of the Future

During their observation they experience moments, which could remind a way of wireless transmission of picture and wireless communication such as skype I mention in the following subchapter. They guess that their crystal is in connection with a similar crystal, which is situated in the world they observe. When they observe life by staring at the crystal egg, they experience moments where the creatures look as if they would know that our protagonist observe them. Their crystal has some peculiar relation of sympathy with another and exactly similar crystal in the other world, so it was possible to observe the other world inside of the Cave's crystal and conversely, in the second crystal it is possible to see Cave's world. Especially one moment may be pretty special. When staring at the crystal, they see how one of the large flying creatures regard the crystal fixedly, even for about 15 minutes. In fact, the creature looks into Cave's eyes.

Only the fact that they see landscape and bird-like creatures moving in the crystal egg reminds watching TV. And what about a moment when they see the creature observing the crystal. If there were people instead of these bird-like creatures maybe they would talk to Mr. Cave and Mr. Cave would hear them and they would converse to each other. So, in this case, it would remind a skype conversation.

¹²⁵ WELLS, Herbert George (přeloženo 2002): *Superaktivátor. 17 fantastických povídek*, Praha. ŠEL, s. r. o., page 23 - 37

3.4. The Real Event

Television

A Scottish engineer named John Logie Baird is considered as the most remarkable inventor in the early history of television despite not being very well known in the United States.

In a period since 1924 to 1927, he invented the first successful mechanical-electric television system. He also staged the first public demonstrations of television and made the earliest transatlantic broadcast of a television signal. He set up the Baird Television Development Company Ltd. which in 1928 made the first transatlantic television transmission from London to New York. The first television programme for the BBC was also set up, but after several negotiations when the BBC provided Baird frequencies and capacities. So, in 1929 the first experimental broadcasting begun.¹²⁶ In 1941, he patented and demonstrated the system of three-dimensional television at a definition of 500 lines. On August 1944, he gave the world's first demonstration of a practical fully colour television display.¹²⁷

The other one, who is also related with invention of television technology is Vladimir Zworykin. He was put in charge television development for Radio Corporation of America and its factories and laboratories in New Jersey. Zworykin invented a television transmitting and receiving system employing cathode ray tubes. He played a role in the practical development of television from the early thirties, including charge storage-type tubes, infrared image tubes and the electron microscope.¹²⁸

European countries such as Great Britain, Germany and France experienced the development of television. It was promising but the Second World War slowed it down. The United states were the place where the television experienced rapid development. It served as a kind of business.¹²⁹

Skype

Skype is a peer-to-peer programme, which provides an internet telephony, video communication and instant messages. The two businessmen Niklas Zennstrom from Sweden and Janus Friiz from Denmark developed this programme. It appeared on the market in Estonia in August 2003. This programme was expected to be named at first Sky peer-to-peer and Skyper

¹²⁶ Internet: <http://www.ric.edu/faculty/rpotter/baird.html>

¹²⁷ Internet: https://lmuweb02.lmunet.edu/uploads/OnlineResources/virtual_exhibit1/vex2/B94CBFA6-C8CF-41DE-BB9C-001387711565.htm

¹²⁸ Internet: <https://www.britannica.com/biography/Vladimir-Zworykin>

¹²⁹ Internet: <http://vtm.e15.cz/aktuality/televize-a-jeji-historie>

afterwards. However, in that time, programmes bearing these names had already existed, so, the final version of the name for this programme was Skype.

Skype provides an opportunity to make free phone calls between two or more people. And it is possible to see the faces of people you phone with. It is also possible to call to traditional telephone networks but in this case, it is necessary to pay charge.¹³⁰

3.5. My Opinion

In comparison with the other stories and novels of science fiction genre, I would still consider this short story as a science fiction genre. The crystal egg may remind the reader of watching movable pictures, which are possible to see when watching TV. It is quite similar with skype communication. Nevertheless, it is a prediction of the wireless transmission of picture, not a real prediction of TV or skype.

The life of the other planet is possible to observe when staring at a crystal with an egg-shape. It is quite different in comparison with the idea that the main symbol of this short story would be a television. Moreover, what is quite unreal is the fact that they observe the life of a different planet, probably Mars. In our world, we are used to communicating with people from different cities or different countries. But not with creatures living in a different planet. Moreover, there are discussions about who are the inhabitants of the planet they observe. Mr. Cave and Mr. Wace think that Martians. Nevertheless, something like these actions do not happen in the real world. I cannot imagine that I would buy an ordinary thing in an antic shop and suddenly it would be possible to use the thing in order to observe a life on a different planet.

Simply, in comparison with other works, which are considered as predictions of future events, this short story even does not look like that it would be based on a reality. This is the reason why I as a reader of the 21st century would still consider it as science fiction in comparison with other Wells' works dealing with future predictions.

¹³⁰ Internet: <https://en.wikipedia.org/wiki/Skype>

4. The World Set Free

4.1. About the Novel

The World Set Free novel was published in 1914. At first, it had appeared in serialised form with a different ending as *A Prophetic Trilogy*, consisting of three books: *A Trap to Catch the Sun*, *The Last War in the World* and *The World Set Free*. He also considered “The Atom Frees the World” as a more probable title of the book.¹³¹

It is presented as a history of important events of the 20th century, jumping back and forth amongst the narratives of different eyewitnesses and the major players of those events.¹³²

With the incredible foresight, given what little physicists and chemists of his time knew about radioactive elements, Wells extrapolated first the splitting of atoms in the laboratory, then the harnessing of radioactivity to fuel power plants and the engines of all manner of vehicles and finally the invention of atomic bombs. The phrase “atomic bomb” was original with Herbert George Wells.

At the beginning of the novel, Wells mentioned William Ramsay, Ernest Rutherford and Frederick Soddy. They were scientists whose work inspired Well’s fiction. Frederick Soddy worked under Rutherford, and together they established that radioactive decay involved a transmutation of elements. For example, radium decays into radon, which decays into polonium. In 1910, Soddy published his work *The Interpretation of Radium*, which contains the passages Wells involved into his novel. Soddy also wrote a book *Wealth, Virtual Wealth and Debts*, where he praises *The World Set Free* novel.¹³³

Many scientists of Wells’ era expected the huge potential for radioactivity, but Wells used the freedom of science fiction to imagine more than scientists dared to speculate. *The World Set Free* gives us a great example of how science fiction and science can interact with each other.¹³⁴

Written at the time when English military and naval forces were at their height and the idea of the world war seemed remote, one might have expected Wells would give an optimistic end to this novel. As the work ends with a horrifying description of the universal social collapse, we can consider this work as an evidence of Wells’ deep-rooted pessimism in the face of a global disaster.

¹³¹ Internet: <https://skullsinthestars.com/2011/06/11/h-g-wells-the-world-set-free-1914/>

¹³² Internet: https://pocketbook.de/de_en/the-world-set-free-9788381156325

¹³³ Wagar, Warren W, H.G., *Wells: Traversing Time*. Wesleyan University Press, page 143 - 144

¹³⁴ Internet: <https://skullsinthestars.com/2011/06/11/h-g-wells-the-world-set-free-1914/>

4.2. The Story

A frequent theme of this novel is the history of the human's mastery of power and energy through technological advance, which was understood as a determinant of human progress.

There are several main characters. Each chapter has its own main character. But the very main character of this novel, who starts everything, is Holsten who is a well-known chemist and physicist. At a young age, he is inspired to work with radioactivity. He sets up atomic disintegration in a minute particle of bismuth.¹³⁵ After some time, the whole industrialism sees the atomic engines named Holsten-Roberts and Dass-Tata engine. In 1953, the first Holsten-Roberts engine brought induced radio activity into the sphere of industrial production, and its first general use was to replace the steam engine in electrical generating stations.¹³⁶

The invention of atomic bomb leads to a catastrophic nuclear war. It is a general war, breaking out in 1958, pitting the Central European Powers against the Slav confederacy, with France and England going to help Slavs. The countries have nuclear weapons and they use them against each other. The world is devastated in a nuclear war. London, Paris, Chicago and many other cities are destroyed in this war. Millions of people die and as the result of this war, the World State is established. The French ambassador at Washington, Leblanc, to summon world leaders to a conference in Brissago, in the Italian Alps, where the leading figure of the conference, King Egbert of the Great Britain proposes the idea of the establishment of the world republic. Everyone agrees with Egbert. The conference changes itself into the world governing council, whose members later agree to stand for election to life terms by whole adult population of the world with additional members, elected every five years.¹³⁷

Several changes have happened after the establishment of the World republic. The Government of the World republic had to understand the world as the whole. It was now impossible to handle affairs piece by piece. They had to secure it universally from any outbreak of atomic destruction. Nuclear reactors shovel out gold as a by-product, so that destroys the world economy. Social and economic system was reconstituted into the level which had prevailed before the first coming of atomic engine. The capitalist system had been smashed beyond repair by the onset of limitless gold and energy.¹³⁸

¹³⁵ H.G. Wells, *The World Set Free* (London: W. Collins Sons, 1924), "Chapter the First: The New Source of Energy," §1

¹³⁶ H.G. Wells, *The World Set Free* (London: W. Collins Sons, 1924), "Chapter the First: The New Source of Energy," §2

¹³⁷ H.G. Wells, *The World Set Free* (London: W. Collins Sons, 1924), "Chapter the First: The Ending of War",

¹³⁸ H.G. Wells, *The World Set Free* (London: W. Collins Sons, 1924), "Chapter the Fourth: The New Phase," §5

The use of English language has changed. English speaking people are permitted to use English language but in reduced form. Grammatical rules have been changed, some word forms such as plurals have been abolished. After ten years from the establishment of the World republic, the New English dictionary contains about 250 000 words. People living in the turn of the 19th and the 20th centuries, would have difficulties with the use of English language, for example while reading newspaper in the time of the World Republic. ¹³⁹

The main character of the last chapter is named Marcus Karenin. He is an old man who expects to undergo surgery. As the title of the chapter is “The Last Days of Marcus Karenin,” it suggests that Karenin dies at the end of the novel, which really happens. During his last days before death, he discusses life with several characters such as the poet Kahn, Edit Haydon or Rachel Borken. Karenin criticised sexual love and women as desire for men. His idea sounds like he would cancel women and establish one universal sex. His opinion is that knowledge and power are the essential vocation of humanity. Not love, just power and knowledge. ¹⁴⁰

4.3. The Element of Prediction of the Future

The main symbol of the novel is atomic bomb. Its usage at war by Wells transcends anything we have so far experienced. In the world of the novel, atomic bombs were first used in the second half of the 20th century. By 1953, nuclear power has come into a general industrial use and the means of transport such as airplanes, cars and trains are powered by atomic engines.

Atomic bombs are said to be strange even to the men who use them. The Allies and Central Europe use atomic bombs, which differ from each other a little bit. Those used by the Allies are the lumps of pure Carolinum, painted on the outside with unoxidised cydonator inducive enclosed hermetically in a case of membranum. A little celluloid stud between the handles, by which the bomb is lifted, is arranged so as to be easily torn off and admit air to the inducive, which at once becomes active and set up radio - activity in the outer layer of the Carolinum sphere. This liberated fresh inducive, and so in a few minutes the whole bomb is a blazing continual explosion. The Central European bombs are the same, apart from that they are larger and have a more complicated arrangement for animating the inducive.

The active ingredient in Well's bombs is Carolinum. It is an artificial radioactive element comparable with the real-world plutonium of 1945. Instead of causing one enormous explosion, it explodes continuously, somewhat like volcano.

¹³⁹ H.G. Wells, *The World Set Free* (London: W. Collins Sons, 1924), "Chapter the Fourth: The New Phase," §6

¹⁴⁰ H.G. Wells, *The World Set Free* (London: W. Collins Sons, 1924), "Chapter the Fifth: Last Days of Marcus Karenin," §8

4.4. The Real Event

The novel *“The World Set Free”* is considered as a prediction of the discovery of artificial radioactivity in 1933 and the following production of atomic bomb. It was published in 1914 and the content of this novel became the reality during the Second World War. Everything started on December 1941, when Japan crashed Pearl Harbor. This event led to the fact that the U.S. entered the war. ¹⁴¹

The United States cooperated with Canada and Great Britain. They designed and constructed the first atomic bomb. The project was called “Manhattan” and American physicist J. Robert Oppenheimer was the leader of the project. The project employed almost one million people but most of them did not know what they worked on. As the construction of atomic bomb was secret, Manhattan Project was a code name and it progressed since 1942 to 1945. ¹⁴²

The two atomic bombs were the result of the project. The bombs carried names Little Boy and Fat Man. Little Boy was made of uranium and Fat Man was made of plutonium.

The initial breakthrough came in 1933, when Joliot-Curies set the production of radioactive phosphorus from aluminium, and, also in 1934, when Enrico Fermi came with the fission of uranium atoms. ¹⁴³

Franz Simon, Nicholas Kurtim and Ernest Lawrence were the scientists who worked on Little Boy bomb. Franz Simon and Ernest Lawrence used the method of separation and Ernest Lawrence had a different method. All these methods were applied in laboratories in Oak Ridge. On August 6, 1945 the United States dropped Little Boy on Hiroshima. Before that, Little Boy had not been tested. 70 000 people immediately died, and the same number of people died during the following days because of radioactive radiation. ¹⁴⁴

In comparison with Little Boy, Fat Man had been tested before the U. S. dropped it. Respectively, the U.S. did not test Fat Man directly, but they tested the bomb which was made of the same material such as Fat Man. The bombs were made of plutonium. The main part of the bombs was the isotope of plutonium 239. Uranium 238 was used for the production of the isotope. White Sands desert in New Mexico was chosen as a place suitable for bomb testing. On July 16, 1945 the U. S. realized the test and dropped the bomb. On August 9, 1945 Americans dropped Fat Man on Nagasaki. More than 70 000 people died.

¹⁴¹ Internet: https://en.wikipedia.org/wiki/The_World_Set_Free

¹⁴² Internet: <https://www.britannica.com/event/Manhattan-Project>

¹⁴³ Internet: <https://www.atomicheritage.org/history/little-boy-and-fat-man>

¹⁴⁴ Internet: <https://codenames.info/operation/manhattan/>

These two bomb attacks led to the capitulation of Japan, which was signed on September 2, 1945. This day meant the real end of the Second World War.¹⁴⁵

4.5. Leo Szilard

Leo Szilard was a Hungarian-German- American physicist and inventor and he is connected with the invention of atomic bomb. He conceived the nuclear chain reaction in 1933, patented the idea of a nuclear fission reactor in 1934, and in late 1939 he wrote the letter for Albert Einstein's signature that resulted in the Manhattan Project that built the atomic bomb.¹⁴⁶

In 1932, he first read *The World Set Free* by H. G. Wells. This novel might have indirectly influenced the history of physics and the development of the atomic bomb. Neutron was also discovered in the same year. These events influenced Szilard's ideas. The existence of such a heavy uncharged nuclear particle emitted by radioactive atoms led Szilard to the conclusion that such neutrons could penetrate the nucleus of other atoms, causing them to decay as well. This chain reaction could be used to release large quantities of radiation at once, to fuel power plants or serve as bombs.¹⁴⁷

Szilard was very intrigued by the socialist and utopian ideas and Wells' works might have meant passion for him. At first, he stated that *The World Set Free* did not influence his nuclear thinking very much. He said that the book had made a great impression on him, but he had not regarded it as anything but fiction. He pointed out that it allegedly had not started him thinking of whether such things could happen in fact or not.¹⁴⁸

However, in 1933, he took part in the meeting of the British Association for the Advancement of Science. There was a speech given by Ernest Rutherford. Rutherford said that whoever talked of the release of the atomic energy on an industrial scale was talking moonshine. It occurred to Szilard that Rutherford might have been wrong because he believed that there might have existed an instable element that splits off neutrons and such an element could sustain a nuclear chain reaction. This event turned his attention to radioactivity, which caused that the novel *The World Set Free* came to his mind. Szilard said that at the time before the meeting, he was playing with the idea of shifting to biology. Nevertheless, the ideas during the meeting opened up possibilities, which Szilard found intriguing that he moved into nuclear physics instead.

¹⁴⁵ Internet: <https://codenames.info/operation/manhattan/>

¹⁴⁶ Internet: <https://www.britannica.com/biography/Leo-Szilard>

¹⁴⁷ Internet: <https://www.bbc.com/news/magazine-33365776>

¹⁴⁸ Internet: <https://skullsinthestars.com/2011/06/11/h-g-wells-the-world-set-free-1914/>

In 1934 he looked at mystery of beryllium. He made several experiments with gamma rays of radium and found out that beryllium could not sustain a nuclear chain reaction. However, he still believed that some element might be capable of sustaining a chain reaction, nevertheless, in the fall of 1938 he gave up his hopes. Though, one month later, he visited American physicist Eugene P. Wigner, who told him about uranium. So, Szilard found out that uranium might sustain a chain reaction. “H. G. Wells, here we come”, he said to himself. ¹⁴⁹

¹⁴⁹ Internet: https://library.ucsd.edu/dc/object/bb58377715/_1.pdf

5. The Land Ironclads

5.1. Short Story

“The Land Ironclads” is one of Wells’ lesser-known works. It was published in 1903 as a part of *The Strand Magazine*. One would say that it was based on the Battle at Somme because Battle at Somme was a trench war and there is a possibility to think that the war of this short story is a trench war.¹⁵⁰

“The Land Ironclads” inspired Winston Churchill, the British Lord of Admiralty. The dimensions and design aspects of ironclads were not very realistic, but they presented the realistic idea. Churchill read the story and was convinced it could make sense in the reality. He was one of people who helped to push the Landships Committee into action in 1915. As it is written in the previous subchapter the first tanks were developed in 1916 and in 1925. During the Royal Commission testimony, Churchill testified under oath that the first person to foresee tanks was Herbert George Wells. Nevertheless, this claim can be put to the question, however. There were authors before Wells that envisioned the armoured vehicles which were similar to the tank. It should be noted that Sir Ernest Swinton, an important driving force behind the creation of the first tank, also wrote for *The Strand* at the same time as H.G Wells wrote his story. An inventor, James Cowen, half-a-century earlier, had envisioned armoured vehicles with repeating weapons.¹⁵¹

5.2. The Plot

Nothing is specified in this story. It is narrated in the third person and the main character of this story is an unnamed war correspondent. The story is set during an unspecified war between two unspecified armies. The author does not specify time, nevertheless, there is a reason to think that even Wells suggests that the war in this short story takes place in an unspecified future. The only time detail, which is known, is that the story is set in the period since about 2 a. m. to 1 p. m.

The story starts with the conversation between the war correspondent and young lieutenant. They are optimistic about the war because they expect their army is full of men born to be soldiers, while the opponent army is seen as an army full of inexperienced boys such as students, factory workers or officers, who are completely inapplicable for war. Suddenly, they notice a weird thing they have not seen. It is a land ironclad. Suddenly, the war reaches a completely new dimension. The land ironclads destroy everything they see, and the war

¹⁵⁰ Internet: https://en.wikipedia.org/wiki/The_Land_Ironclads

¹⁵¹ Internet: <https://tanks-encyclopedia.com/hg-wells-land-ironclads-fictional-tanks/>

correspondent finds out that the situation is much different for his army in comparison with a moment two hours ago. At the end, the war correspondent capitulates and escapes.¹⁵²

5.3. Elements of Prediction of the Future

The short story is believed to be a prediction of the production of tanks. In spite of the fact the vehicles similar to tanks occur in the story, the word tank is not used. As the title of the story says, the word for the vehicle is the land ironclad. Sometimes the vehicles are called “monsters”. The overall number of these vehicles is fourteen or fifteen. The land ironclad reminds the reader of a large and clumsy black insect. Something between a big blockhouse and a giant’s dish-cover. The length of the machine is about thirty metres and it is about three metres high. It is possible to see holes on its sides, which serve for shooting. This machine is said to be armoured against all shots and attacks, and it runs over the 9 metres-long trenches. Every land ironclad carries riflemen, engineers and a captain.

The other detail, which I consider as an element of the prediction of the future is the fact that the story describes a trench war. What is interesting, trenches occurred for the first time during the same as tanks. The Battle at Somme.

5.4. My Opinion

As H. G. Wells was a British, I expect one of the two armies could be the British army. I would say that the British army is the army, which uses the land ironclads for the war. As a British, Wells might have mentioned his country as a winning country. Moreover, the war in the short story is said to refer to the Second Boer War, which was won by the British, who had a technologically better equipped army.

Nevertheless, in this case, it would mean that the main protagonists of the story belonged to different nationality because they were members of the opponent army. However, there is a moment in the story when the war correspondent remembers the time when he made an interview with a man named Diplock in Westminster. One would think that the war correspondent comes from Britain, nevertheless, he might have visited Westminster only as a visitor. As I have already mentioned, he is not a member of the army, which uses the land ironclads.

I even got an idea that it could be a domestic war between countrymen and townsmen, but would it make sense?

¹⁵² WELLS, Herbert George: *Superaktivátor. 17 fantastických povídek*. Praha. ŠEL s. r. o., page 179 - 197

5.5. The Real Event

“The Land Ironclads” short story is considered as a prediction of the production of a tank. There were some inventions, which were considered as precursors of a tank. But the real tank as we know it was constructed during the First World War by Great Britain.

The trench warfare of World War I. was the reason why the British developed the tank. In 1914, a British army colonel named Ernest Swinton and William Hankey, a secretary of the Committee for Imperial Defence, pushed through the idea of an armoured vehicle with conveyor-belt-like tracks over its wheels that could break through enemy lines. The men appealed to Winston Churchill, the British navy minister, to begin the development of a prototype. To keep the project secret from enemies, the production workers were reportedly told the vehicles would be used to carry water on the battlefield. Anyway, the new vehicles were shipped in the crates labelled “tanks” and the name stuck.¹⁵³

The first tank prototype, Little Willie, was unveiled in September 1915. Its performance meant a disappointment. It was slow, overheated and couldn't cross trenches. As a result, the second prototype, known as “Big Willie,” was produced. In 1916, this armoured vehicle was considered as ready for the war and on September 15, 1916, it was the first time the tank was used in a battle. It was the First Battle of the Somme. Known as the Mark I, this first batch of tanks was hot, noisy and unwieldy and suffered mechanical malfunctions on the battlefield. The first usage of tanks was not successful. The tanks ended in mud. However, the further design improvements were made and at the Battle of Cambrai in November 1917, 400 Mark IV's proved much more successful than the Mark I.¹⁵⁴

When Wells found out that the British army developed tanks without him, he felt to be aggrieved. Nevertheless, as soon as he heard of problems at the Battle of Somme, he contacted military experts. He presented his idea about how to improve conveyor belts in order to decrease the risk of ending in mud. Afterwards, positional war was changed into mobile war. First, the use of tanks was called as “armoured circus”.

Tanks became an important military weapon. During World War II, they played a key role across numerous battlefields. For example, the tanks of the German army caused huge damages, especially to the French army. All armies in the world were obligated to have tanks as a part of the military equipment. Nevertheless, at the end of the 20th century, the military strategy has changed, and tanks went to the background.¹⁵⁵

¹⁵³ Internet: <https://www.history.com/this-day-in-history/first-tank-produced>

¹⁵⁴ Internet: <https://www.britannica.com/technology/tank-military-vehicle>

¹⁵⁵ HUDSKÝ, Stanislav (2003). *Jiné světy za dveřmi nevyzpytatelného pana Wellse*. Doslov. In: *H. G. Wells: Superaktivátor*. Praha. ŠEL, page 240

6. A Dream of Armagedon

6.1. The Short Story

The short story *A Dream of Armagedon* is supposed to be a prediction of the World Wars. The author describes the aerial bombarding warfare. The readers can also notice descriptions of military aircrafts. The short story was published in 1901. The First World War took place since 1914 to 1918, the Second World War took place since 1939 to 1945. The first military aircraft was constructed in 1913.

6.2. The Plot

The story develops in the form of a conversation between an unnamed narrator and a stranger he travels with by train. The stranger talks about his dream. Nevertheless, he has a feeling that in spite of the fact it was just a dream, to him, it looks more real than the events he really experienced. He speaks about a woman he never saw in the real life, but he had a close relationship with her in his dream. The stranger states that he has already met a lot of people, but nobody was as real as the woman in his dream. Even his wife or daughter were less real.

What may be interesting about his dream does not set in the world as he knows. His opinion is that it is set somewhere in the future, maybe even in the next century. The stranger was a major political figure in this dream, and he gave up his position because of life with the previously mentioned woman in Capri. Though he allegedly has never been to Capri, he describes as if he knew it well. As his dream is set in Capri. As the narrator spent some time in Capri, he even agrees with the stranger's descriptions based on his dream.

The main theme of the stranger's dream is a bad decision of the stranger. He is a former leader of the most important political party. But as he decided to give up the position of the leader, the function is gained by Mr. Gresham. He is described as a cruel guy who loves violence. As Mr. Gresham was always the one who was able to keep Mr. Gresham calm, he is offered to regain his old position back. An Envoy from his country who asks him for returning back says that Mr. Gresham is about to declare war and only the comeback of the stranger would stop him. However, the stranger refuses because it would mean to leave the woman he loves. She persuades him to leave her and return back but the stranger does not want to. And the result of this decision is that Global war erupts, and military aircrafts drop bombs. At the end of the dream the stranger's lady dies.¹⁵⁶

¹⁵⁶ WELLS, Herbert George: *Superaktivátor*. Praha. ŠEL, page 107 – 115

6.3. Elements of Prediction of the Future

Military aircrafts are considered as a symbol of prediction of the future. The stranger calls them as birds with an evil sign. He describes them as large controlled machines with a spear tip-shape with an air propeller in the back. Machine guns with highly explosive cartridges were also an integral part of these military aircraft.

Another element of prediction of the future, which is mentioned in this short story, is aircraft bombing. At the end of the story, when the stranger speaks about the beginning of the war in his dream, he describes moments when he saw thousands of military aircrafts on the sky. One quarter of sky was covered with aircrafts, which looked like little dots while observed from the ground. Aircrafts were like a flock of seagulls or ravens. They came, rising and falling and growing larger. The narrator says that when he and his lady were hiding in woods from hovering aircrafts, they saw aircrafts fighting far away from each other, with the terrible new weapons, which had not been used before. The narrator describes that overhead in the sky something flashed and burst and afterwards he heard the bullets making a noise like a handful of peas suddenly thrown. He adds that the bullets chipped the stones around him and whirled fragments from the bricks and passed.

6.4. The Real Event

Military Aircraft

Military aircrafts, which are mentioned in the short story cohere with the craft named Ilya Muromets. At first, Ilya Muromets was a Russian civil traffic aircraft, but later, in 1913, it was set for fights of the First World War. The craft was named according to the main hero of Russian myths, Ilya Muromets. The one who constructed it was twenty-three-year old Igor Sikorski. Experts from Great Britain, French and Germany called it Russian flying fortress and Russian military miracle.¹⁵⁷

Igor Sikorski was expected to become a commissioned officer but after 3 years of studies he found out that it was not for him. In 1908 he visited Germany and met Wright brothers, the constructors of the first plane heavier than air. He considered it as the inspirational meeting. He realized that aviation was his passion. He started to study aeroplanes with fixed wings. All his attempts were signed with the letter S. Construction of an aeroplane S-5 was successful. After undertaking several flight attempts, Sikorski had a crash. In summer 1913,

¹⁵⁷ Internet: https://www.tyden.cz/rubriky/byznys/pribeh-vrtulniku-sikorsky-na-zacatku-byly-nakresy-da-vinciho_522672.html

Sikorski constructed S-6 craft, which was a plane nobody had constructed. It was a biplane aircraft with four engines, which provided a possibility to travel for seven people and three members of a crew. This plane got a nickname Russian Knight. Russian Knight worked only for four months and afterwards an engine from a different aircraft damaged it. ¹⁵⁸

Igor Sikorski still did not give up his thoughts about a large aircraft. On January 13, 1914 he introduced a higher level of Russian Knight named Ilya Muromets. Later, he undertook a flight from Petrohrad to Kiev and back. He planned that this aircraft would serve for tourists. His dreams about it vanished as the First World War begun. Ilya Muromets served as a bomber during the First World War. Almost one hundred copies of Ilya Muromets were built during the First World War.

During the War, Sikorski moved to America and he established his own company, bearing name Sikorski. This company focused on aircraft production. ¹⁵⁹

Aircraft Bombing

Aircraft bombing is a special kind of air attack when a large number of military aircrafts is deployed to fight. The main aim of aircraft bombing is overall demolition of large area. The most frequent use is for the demolition of the industrial area of enemies.

The principle of aircraft bombing is about large number of military aircrafts flying in close formation. When aircrafts are in the area they want to destroy, they gradually open bomb bays and they drop bombs.

It happened during Spanish Civil War and Guernica city was destroyed. The main boom of aircraft bombing is connected with the Second World War. The Vietnam War was another event, which involved aircraft bombing. The aim was not only to destroy the industrial and civil areas but also to destroy the morality of the inhabitants. Nowadays, armies do not use aircraft bombing because they have more effective weapons in the form of rockets, which are able to destroy the target more quickly and effectively. ¹⁶⁰

¹⁵⁸ Internet: <https://www.britannica.com/biography/Igor-Sikorsky>

¹⁵⁹ Internet: https://www.tyden.cz/rubriky/byznys/pribeh-vrtulniku-sikorsky-na-zacatku-byly-nakresy-da-vinciho_522672.html

¹⁶⁰ Internet: https://cs.wikipedia.org/wiki/Kobercov%C3%A9_bombardov%C3%A1n%C3%AD

The Potential Predictions

Herbert George Wells wrote several novels, which were expected to predict future events as well but have not become reality yet. I decided to mention the novels *The Time Machine* and *The Invisible Man* in this part. As I have already suggested, Wells did not write his works in order to try to predict the future. He wanted to warn the society. He wrote *The Time Machine* and *The Invisible Man* in order to warn against the misuse of science.

The word “warning” may be considered as synonym to the word “prediction” in this context. Therefore, in this respect, these two novels can be used as good examples. Nevertheless, as my diploma thesis is entitled *The Predictions in the Work of Herbert George Wells*, these novels are considered in their links to the events they might potentially happen.

7. The Time Machine

The Time Machine was Well’s debut novel published in 1895. This is a novel, which popularized the idea of time machine.¹⁶¹

As I have already written, this novel is not considered as a novel, which would predict a future event. Unfortunately, we may not consider the time machine as a symbol of the prediction of the future. Nevertheless, there is an occurrence of humanoids called Eloi, who have not appeared yet in the real world but have characteristics, which may be typical of some people.

7.1. The Story

The main character of this novel called the time traveller, builds the time machine for time travelling. The story begins when a group of men including the time traveller discuss the theory that time is the fourth dimension. The time machine rockets the time traveller to the future. He stops in the year 802701. He expects to see large technical and human progress, but the reality makes him disappointed. The world he finds is peopled by two races, the Eloi and the Morlocks.

The Eloi is a society of small, elegant childlike adults. They are frail and peaceful and give him fruit to eat. the time traveller goes to explore the area afterwards. When he returns, he finds out that his time machine disappeared. At night, he can see white ape-like creatures the Eloi call Morlocks. They are said to be the ancestors of people from the working class. They live under ground and eat blood of their infant masters. Meanwhile, the time traveller befriends

¹⁶¹ Internet: https://en.wikipedia.org/wiki/The_Time_Machine

one Eloi named Weena. Their friendship starts when the time traveller saves her from drowning. He has different idea about a good partner, but still he is glad that he is not completely alone. Afterwards, the time traveller goes to the world of Morlocs in order to retrieve his time machine. Weena goes with him, so as to help him. The Time Traveller accidentally starts fire. Many Morlocs die and Weena as well. He succeeded in finding his time machine and when the Morlocs think that they caught him, the time traveller disappears into thin air. He travels again, 30 000 000 years since the year 802 701, where he can't find any people, but only crustaceans. Then, he returns to the present time.

The next day, he leaves again and never returns. ¹⁶²

7.2. Time Travelling

Though many films about time travelling have been created, time travelling in the real world has not been possible yet.

Time travelling is a theoretical concept when people can travel to the past or the future, mostly with the use of a machine. This concept focuses on the physical possibilities of motion of material body and is not interested in the life conditions for life organism of a traveller.

If time travelling were invented, we would probably meet people traveling from the future but something like this has not happened. So, this fact may be a reason to think that there will never be possible to travel in time.

Besides the physics problems, time travel may also come with some unique situations. A classic example is the grandfather paradox, in which a time traveller goes back and kills his parents or his grandfather, for example in "Terminator" movies. He can also interfere in the relationship of his parents, for instance "Back to the Future". It leads to the fact that he is never born, or his life is altered. ¹⁶³

7.3. The Eloi

As I have already stated, humanoids called the Eloi occur in the book. They represent the reason why the future described by Herbert George Wells may have identical features with the future of our time.

The Eloi are said to be the ancestors of people from the upper class. They are considered the result of the society where people lived comfortable lives, which led to the fact that their brains stunted. Herbert George Wells described the Eloi as creatures smaller and much more

¹⁶² WELLS, Herbert George, *The Time Machine*, Bartleby.com, 2000

¹⁶³ Internet: <https://www.space.com/21675-time-travel.html>

stupid than ordinary people. Their behaviour is said to be infant. The Eloi are like children unable to work. They often dance, eat and enjoy their lives. It is easy to make them tired. The Eloi also cannot solve unpredictable and difficult situations.

Some features of the Eloi may be identical to the ancestors of today's upper class people. These people make a lot of money and give high pocket money to their children. No relationship to work and enjoying life may be typical features for the ancestors of today's upper class people. As these children live comfortable lives, it can also happen that when they appear in a difficult situation, they are unable to solve it. The Eloi could be also compared to the highly educated adults as well. Those are people who spend a lot of time with studying. They mostly do not like to work manually and get pocket money from their parents. So, taking care of themselves may be also difficult for them.

Herbert George Wells used this novel in order to introduce his socialistic opinions. To be specific, he used the conflict between the Eloi and the Morlocs in order to show it. He hoped people would be equal and will not be divided into rich and working classes. This novel served as a warning. The main aim of this novel was to say that if there are conflicts concerning the class differences, there won't be any kind of progress, but only a total degeneration, which will lead to cannibalism and human extinction.¹⁶⁴

7.4. My Opinion

I think that a lot of people dream about possibilities to travel to the past and change their lives. Also, they may dream about travelling to the future, see their future selves and, if seeing their future selves makes them scared, they would do their best in order to change their future. But who knows how time travelling would work if it really existed? The movies about time travelling are full of, so called, butterfly effect. It works in a way that even a small change in the past can give a different dimension to the present. For example, one would kill a small beetle in the past and after he returned to the present the world would be completely different. If time travelling caused changes like this, maybe it is probably better that no one has invented time machine.

Perhaps one day, even *the Time Machine* novel will be considered as a prediction novel as far as time travelling. But I believe it will happen neither in the near future, nor in this century at all. The next century or even a farer future seem to me as more probable.

¹⁶⁴ Internet: <http://ctenarsky-denik.blog.cz/1809/stroj-casu-h-g-wells>

8. The Invisible Man

The Invisible Man is a science fiction novel published in 1897. This novel helped H. G. Wells to be established as the father of science fiction. Herbert George Wells might have thought that one day, people will have an ability to become invisible. ¹⁶⁵

8.1. The Plot

The main character of this novel is a mysterious man named Griffin. He arrives at an English village named Iping and accommodates in a small pension named Horse and Coach Inn. Mrs. and Mr. Hall are the owners of the pension and they accept Griffin. Griffin seems to be a weird guy. He wears gloves and long-sleeved thick coat. He also wears a wide-brimmed hat. His face is entirely hidden by bandages and there is also possible to see a pink fake nose. Griffin is not interested in talking to people and he spends most of his time in his room. He goes out at evenings. Meanwhile, mysterious burglary occur in the village and Griffin is the most suspicious person. When Griffin does not want to pay to Mrs. Hall for accommodation, she calls the police. Griffin uses his ability to be invisible and escapes. Griffin finds out that he forgot some important notes in his hotel room, so he forces a homeless guy, named Thomas Marvel to help him. Marvel betrays Griffin to the police, so Griffin chases Marvel to Port Burdock, trying to kill him. After some time, he meets his former colleague, named Dr. Kemp, and tells him his story about how he became invisible. However, Kemp calls Scotland Yard. At the end of the novel, a crowd of people attacks Griffin and kills him to death. His body become visible after his death. ¹⁶⁶

8.2. Invisibility in the Novel

Griffin is a young chemist and physicist who gets an idea to make an experiment of invisibility. He tries the invisibility on a cat and then on himself. His effort has a success. However, he is not successful when trying to create antibody against invisibility. So, he is constantly invisible, worn in a way that nobody recognizes it.

Griffin uses the invisibility for criminal purposes. As he needs money, he uses the invisibility for several burglaries. Also, it helps him to escape when Mrs. Hall calls the police on him. At the end of the novel, Griffin becomes visible. But how? As a result of the fact that he is killed. So, does it mean that to die is the only way how Griffin could become visible again?

¹⁶⁵ Internet: https://en.wikipedia.org/wiki/The_Invisible_Man

¹⁶⁶ WELLS, Herbert George, *The Invisible Man* (1897), London; New York: Penguin, 2005

8.3. My opinion

Many movies about invisibility, including *Harry Potter* or the Czech fairy-tale series *Arabella*, have been filmed.

When thinking about the ability to become invisible, we can imagine ourselves invisible, and rob a bank or something else. Having this ability could support people to commit crimes. I even think that good people without any tendency to break the law would not need an ability like this. Wells wrote this novel as a warning against misuse of science. And as we know, Wells thought about the future a lot. So, probably he got an idea that perhaps it would be possible to become invisible one day.

As I mentioned in the previous part, when reading this novel, we can see several situations where invisibility was used for committing crime. For example, Griffin uses it for burglaries in Iping. When he is caught by the police, he uses it for escape. So, Wells might have written this novel as a warning for scientists in order to tell them that an ability like this must not become a reality. What would happen if everybody could become invisible? People would probably do what they would want, nobody would catch them, and world would become chaotic.

Some people are said to be invisible. But invisible as persons, not invisible in a sense that nobody can see them. This quality is frequent for the type of people called introverts. However, the invisibility as an ability not to be seen has not been invented. Who knows, it is possible that it will happen one day. Probably in the far future. Nevertheless, I think that it is better for humankind that this ability has not been developed. Probably it would damage the whole world. People would use it for burglaries, cheating or bothering.

Supposing, the invisibility would be invented. Hopefully, scientists will also create an antibody against invisibility. As I have mentioned, in the novel, Griffin becomes visible after the crowd of people kills him to death. So, hopefully, in the real world, invisible people will not have to just die in order to regain their visibility.

9. Conclusion

As I have already mentioned, the main aim of the practical part of my diploma thesis was to analyse Wells' stories which are said have predicted the future events and compare these stories with the real events.

I find Wells' relationship to the future fascinating. The ability to guess what would happen in the future was unique. What is even more important, in comparison with Jules Verne, Wells made up everything. Predictions by Jules Verne were based on basics of physics. Despite this, Wells predictions were more successful than Verne's ones.

Nevertheless, I have read many articles where the personalities such as Winston Churchill or Leo Szilard said that reading Wells' literature influenced them. On one hand, when I read the short stories considered as predictions of the future, I had a feeling, that some stories were based on the real events. For example, when reading "The Land Ironclads" the reader thinks that it is based on The First World War. On the other hand, as I have already mentioned, Wells' work might have served as an inspiration for some events. For example, Leo Szilard, the designer of the atomic bomb, said that reading of *The World Set Free* novel gave him an inspiration and years later, the atomic bomb was invented. So, how many of these events would have happened if Wells had not written these books?

Some of the works, which are said to have predicted the future I would not call as science fiction works. For example, "The Land Ironclads", *The World Set Free*, "The Dream of Armagedon" seem to be based on the events which happened. If the reader read the text and did not know when it had been written, he surely would not call it science fiction. Nevertheless, people from the end of the 19th century must have considered these works as real science fiction.

However, there are a lot of Wells' works, which have not been considered as predictions of future events. So, can we expect that some of them will be regarded as predictions of the future as well? I think that a lot of people would be happy, if the novel entitled *Time Machine* would be added to the list of these books, one day. To have the ability to become invisible would be great as well, but not in the way that is described in *The Invisible Man*. In the real world, it would be ideal if this ability involved the ability to turn visible again. However, this ability could be easily abused, so it will be better to keep it in the world of fiction.

I have a feeling I enjoyed writing my diploma thesis. I found out not only a lot of interesting facts about H. G. Wells but also about science fiction itself, historic facts and many other things. I believe, one day, I will read other Wells' works I have not read. For example, wireless communication in the novel *Men Like Gods* could be interesting. However, writing this diploma thesis motivated me to be interested in Verne's literature more than Wells' one.

10. Resumé

Cílem této práce bylo interpretovat vybraná díla Herberta George Wellse s ohledem na vztah mezi fiktivními motivy a pozdějšími vynálezy a událostmi.

Cílem první části je představit osobnost Herberta George Wellse a jeho literární tvorbu. Napsal vícero žánrů, nicméně moje práce se zabývá především jeho science fiction literaturou. Je zde také srovnání s Julesem Vernem, který byl stejně jako Wells, nazván „otec science fiction.“ Primárním cílem této práce je zabývat se jeho schopností přemýšlet o budoucnosti a předvídat budoucí události. Třebaže v první části mám stručně popsané jeho vize, které představuje ve svých společenských románech, primárním cílem této práce je zabývat se díly z oblasti science fiction, o kterých se říká, že předpověděly budoucí události

Druhá část mojí práce se zabývá následujícími díly: *The World Set Free*, *First Men in the Moon*, *The Time Machine*, *The Invisible Man*, „The Land Ironclad“, „The Dream of Armagedon“, „The Crystal Egg“. Východiskem analýzy je posouzení vývoje a úlohy science fiction na základě odborných studií Darko Suvina a Adama Robertse.

Pozornost je soustředěna na problematiku spojenou s termínem „novum.“ Novum je tzv. něco nového. Jde o vědecký jev, který je popsán autorem science fiction, ale nemá alternativu ve skutečnosti. Symboly, které Herbert George Wells mínil jako novum, byly atomová bomba (*The World Set Free*), obrněné vozidlo (*The Land Ironclads*), bojová letadla (*The Dream of Armagedon*), stroj času (*The Time Machine*), schopnost se stát neviditelným (*The Invisible Man*), cestování na měsíc (*First Men in the Moon*), přenos pohyblivého obrazu (*The Crystal Egg*). Nova z děl *The World Set Free*, „The Land Ironclads“, „The Dream of Armagedon“, *First Men in the Moon* se staly skutečností. Nova z děl *The Time Machine* a *The Invisible Man* se skutečností ještě nestaly, nicméně, není vyloučeno, že se tento fakt kdykoliv v budoucnosti změní.

Třebaže Wells svoje díla psal za účelem varovat společnost, realita působí dojmem, že jeho díla sloužila spíš jako inspirace.

11. Bibliography

Primary Literature

1. WELLS, H. G., (přeloženo 2002): *Superaktivátor. 17 fantastických povídek*, Praha. ŠEL, s. r. o.
2. WELLS, H. G., *The First Men in the Moon* (Fontana Books, W. Collins Sons & Co. Ltd. Glasgow, 1960),
3. WELLS, Herbert George, *The Invisible Man*. London; New York: Penguin, 2005
4. WELLS, Herbert George, *The Time Machine*, Bartleby.com, 2000
5. WELLS, Herbert George (1924) *The World Set Free*, London: W. Collins Sons

Secondary Literature

1. Broderick, Damien (1995), *Reading by Starlight: Postmodern Science Fiction*, London and New York: Routledge
2. Deirde, D. (2006) *The Cambridge Companion to The Victorian Novel*. Cambridge
3. Hilský Martin, ed. *Dějiny anglické literatury 2*. Praha: SPN, 1988
4. HUDSKÝ, Stanislav (2003). *Jiné světy za dveřmi nevyzpytatelného pana Wellse*. Doslov. In: *H. G. Wells: Superaktivátor*. Praha. ŠEL
5. James, L. (2006) *The Victorian Novel*. United Kingdom, Blackwell Publishing
6. Jones, Gwyneth (1999) *Deconstructing the Starship: Science Fiction and Reality*, Liverpool: Liverpool University Press
7. Ondřej Neff a Jaroslav Olša, jr. (1995), *Encyklopedie literatury science fiction*, AFSF a H&H, Praha a Jinočany
8. Edited by James E, Mendlesohn, F, *The Cambridge Companion to Science Fiction* (2003), Cambridge University Press
9. HUDSKÝ, Stanislav (2003). *Jiné světy za dveřmi nevyzpytatelného pana Wellse*. Doslov. In: *H. G. Wells: Superaktivátor*. Praha. ŠEL. s. r. o.
10. Moorcock, Michael. "Play with Feeling." *New Worlds* (1963)
11. Parrinder, Patrick, (ed) (1980) *Science Fiction: its Criticism and Teaching*, London and New York, Methuen
12. Peck, E. & Peck, A, *Panorama of English Literature/Anglická literatura*. Infoa, 2002
13. Roberts A. (2000) *Science Fiction*. London, Routledge 11, Fetter Lane
14. Přeložili Pochylý M, Půrová V, (2001) *Encyklopedie historie světa*, Ottovo nakladatelství s. r. o., - Cesty, Praha

15. Suvin, D. (1979), *Metamorphoses of Science Fiction*, New Haven and London, Yale University Press
16. Stříbrný, Zdeněk (1987). *Dějiny anglické literatury 2*. Praha: Academia.
17. Wells, Herbert George (1924) *The World Set Free*, London: W. Collins Sons
18. Wagar, Warren W, H.G., *Wells: Traversing Time*. Wesleyan University Press

Articles:

Cf. Fry, C. George, Salem Press Biographical Encyclopedia, 2020

Videos

- 1) The History of Sci Fi – Jules Verne – Extra Sci Fi #1 In Youtube
- 2) Future Tense: The Story of H. G. Wells, BBC Documentary, 2016, In Youtube
- 3) The History of Sci Fi – H. G. Wells – Extra Sci Fi #2 In Youtube
- 4) Writer H. G. Wells Loved to Predict the Future, In Youtube

Electronic sources

<http://www.zlatyveksf.euweb.cz/alternative/54.htm>

<http://www.sf-encyclopedia.com/entry/novum>

<https://en.wikipedia.org>, <https://cs.wikipedia.org>

<https://www.indiatoday.in/education-today/gk-current-affairs/story/6-true-future-predictions-hg-wells-1345657-2018-09-21>

<https://eandt.theiet.org/content/articles/2016/12/hg-wells-the-worlds-first-professional-futurologist/>

<https://www.nytimes.com/1978/05/28/archives/growing-up-with.html>

http://www.sf-encyclopedia.com/entry/scientific_romance

<https://io9.gizmodo.com/before-science-fiction-romances-of-science-and-scienti-5870883>

<https://americanliterature.com/author/hg-wells/book/the-food-of-the-gods/summary>

<https://newhumanist.org.uk/articles/437/the-science-of-fiction>

https://link.springer.com/chapter/10.1057/9780230554658_7

<https://www.differencebetween.com/difference-between-jules-verne-and-vs-h-g-wells/>

https://link.springer.com/chapter/10.1057/9780230554658_7

<http://www.wnrf.org/cms/hgwells.shtml>

<https://theconversation.com/we-should-remember-hg-wells-for-his-social-predictions-not-just-his-scientific-ones-56845>

<https://www.smithsonianmag.com/arts-culture/many-futuristic-predictions-hg-wells-came-true-180960546/>

https://wetenschapsschool.nl/chapter/History_19_The+Atomic+Bomb.html

<https://eandt.theiet.org/content/articles/2016/12/hg-wells-the-worlds-first-professional-futurologist/>

<https://www.indiatoday.in/education-today/gk-current-affairs/story/6-true-future-predictions-hg-wells-1345657-2018-09-21>

<https://www.grantsjewelry.com/aprils-last-look-synthetic-diamonds/>

<https://www.novinky.cz/veda-skoly/clanek/synteticke-diamanty-oslavi-sedesatiny-92569>

<https://www.britannica.com>

<https://www.smithsonianmag.com/smithsonian-institution/sad-story-laika-space-dog-and-her-one-way-trip-orbit-1-180968728/>

<http://www.ric.edu/faculty/rpotter/baird.html>

https://lmuweb02.lmunet.edu/uploads/OnlineResources/virtual_exhibit1/vex2/B94CBFA6-C8CF-41DE-BB9C-001387711565.htm

<http://vtm.e15.cz/aktuality/televize-a-jeji-historie>

<https://skullsinthestars.com/2011/06/11/h-g-wells-the-world-set-free-1914/>

https://pocketbook.de/de_en/the-world-set-free-9788381156325

<https://www.atomicheritage.org/history/little-boy-and-fat-man>

<https://codenames.info/operation/manhattan/>

<https://www.bbc.com/news/magazine-33365776>

https://library.ucsd.edu/dc/object/bb58377715/_1.pdf

<https://tanks-encyclopedia.com/hg-wells-land-ironclads-fictional-tanks/>

<https://www.history.com/this-day-in-history/first-tank-produced>

<https://www.space.com/21675-time-travel.html>

https://www.tyden.cz/rubriky/byznys/pribeh-vrtulniku-sikorsky-na-zacatku-byly-nakresy-davinciho_522672.html

<http://ctenarsky-denik.blog.cz/1809/stroj-casu-h-g-wells>