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**THE IMPORTANCE OF TERM RENDITION WHILE EXPRESSING THE
CONTEXT-RELEVANT INFORMATION IN THE LITHUANIAN
SUBTITLES: THE CASE OF THE FILMS OPPENHEIMER (2023) AND
TESLA (2020)**

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**TERMINŲ PERTEIKIMO SVARBA KONTEKSTUI REIKŠMINGOS
INFORMACIJOS RAIŠKOJE LIETUVIŠKUOSE SUBTITRUOSE: FILMŲ
„OPENHEIMERIS“ (2023) IR „TESLA“ (2020) ATVEJIS**

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Contents

INTRODUCTION.....	4
1. PROPERTIES OF TERMINOLOGY	7
1.1. Notion and Specificity of Terms	8
1.2. Term Translation and Their Significance to the Context	10
2. SUBTITLING AS A MODE OF AUDIOVISUAL TRANSLATION.....	16
2.1. Spatial and Temporal Requirements for Subtitles.....	17
2.2. Role of Text Reduction in the Process of Subtitling.....	20
3. TRANSLATION, TERMINOLOGY AND ITS RELEVANCE IN THE SELECTED FEATURE FILMS 24	
3.1. Identification of Terms in <i>Oppenheimer</i>	24
3.2. Terms and their Grouping in <i>Tesla</i>	29
3.3. Peculiarities of Term Translation in the film <i>Oppenheimer</i>	32
3.4. Translation Peculiarities of Terms in <i>Tesla</i>	38
4. QUALITY OF THE SUBTITLING OF THE SELECTED AUDIOVISUAL MATERIAL	42
4.1. Peculiarities of the Detected Subtitles in the film <i>Oppenheimer</i>	42
4.2. Subtitled Text in the Film <i>Tesla</i>	44
4.3. Reduced Subtitled Text in the film <i>Oppenheimer</i>	46
4.4. Condensation of Text in the Feature Film <i>Tesla</i>	50
CONCLUSIONS.....	54
REFERENCES.....	56
SUMMARY	60
SANTRAUKA	61
APPENDIX.....	62

INTRODUCTION

Audiovisual content, which first appeared at the end of the 19th century, gradually evolved from its initial state: the first clips lasted for a few seconds (or minutes), were soundless, black-and-white. However, technological change had a great influence on it, and, eventually, audiovisual products surpassed the hour mark, gained colours, as well as sound that first appeared in the film *The Jazz Singer* (Alan Crosland, 1927). It featured some verses sung by Lithuanian-born American artist Al Jolson. Audiovisual material became progressively popular and spawned different variations: TV shows, documentaries, feature films, sitcoms, internet clips, social media reels, etc.

Some forms of audiovisual content feature specific linguistic units, such as slang, culture-specific items, etc. No exception is terms – clearly defined words or fixed phrases that have a link with certain fields or branches of human activity (Keinys, 2005, p. 229). Terms are an inseparable part of the content as they might be used to explain context-related details. Besides, scientific audiovisual content may be deployed to educate the mass audience. For example, in the past, science fiction was mobilised to be a part of a broader educational strategy that was adopted not only by separate authors but by various organisations, such as ZPG (Zero Population Growth), as well (Olszynko-Gryn, & Ellis, 2018, p. 4). In addition, some works also propose using films as a means to spread information about various issues, such as climate change (Hobbs-Morgan, 2017, p. 78). Therefore, scientific language has become an important part of popular culture as well.

Audiovisual material is broadcast or played not only in the country that produced it, but also abroad. Thus, films must be translated into other languages. For this reason, films are localised to foreign languages by employing an adapted translation form called *Audiovisual Translation*. It is quite a complex method of translation that blends “four main constituents – audio-verbal signs, visual-verbal signs, audio-non-verbal signs and visual non-verbal signs” (Zabalbeascoa, 2008, p. 2). Thus, audiovisual translation considers not just the original text presented in the script, but also the audible (music, dialogues, other sounds) and visual (shots, colours, camera movement) content. The reason behind this is that the audiovisual signs support the dialogues and, at some points, may present some hints of what is meant by words and influence the translator’s decisions as well.

Audiovisual translation itself is an umbrella term that covers smaller translation methods (that are usually more known as modes in such context). The number of modes tends to differ based on the classifications of different scholars; however, typically the three main modes of audiovisual translation are considered to be voice-over, dubbing and subtitling (Díaz-Cintas, & Remael, 2007, p. 8). Subtitling is a translation practice that uses a written text on, usually, the lower part of the screen and aims to recount the original dialogue of the characters (Díaz-Cintas, & Remael, 2007, p. 8).

Voice-over and dubbing are the translation methods that cover the original actors' voices to some extent or completely, whereas subtitling is used to display only the written verbal dialogue messages and allows viewers to hear authentic voices. However, it also has its cons: this mode comes with specific limitations since as far as spatial aspects are concerned; the size of the screen has boundaries (Díaz-Cintas, & Remael, 2021, p. 4). Therefore, when preparing subtitles, the translator/subtitler must acknowledge spatial requirements, such as a distinguished number of characters per line or the maximum number of lines per subtitle. These restrictions influence the fact that only a limited amount of information may be included in the subtitles. As a result, it may be rather complicated to render all the translated content of the source text to the local viewer. What is more, as was already mentioned, in fiction and documentaries, the spoken text may contain specific linguistic units – terms, which, due to their definite content and linguistic structure may be complicated to render in the subtitles. Hence, because of the reduction principles of the translated text applied in the subtitling, there may be a risk that multiple terms in an audiovisual product will be excluded or semantically distorted by the inclusion of their inaccurate equivalents.

In the field of subtitling, different linguistic issues, namely culture-specific items (Jenciūtė 2018), (Fouad, 2022), slang (Šliupaitė, 2012), fansubbing (Bjørkedal, 2018), anthroponyms (Judickatė, 2013), spoken language (Bartaškevičius, 2017), humour (Šidiškytė, 2017) (Al-Jabri, Alhasan, and Ali, 2023), even intertitles (Gaudreault, 2013) have been addressed; however, when it comes to terminology, the amount of works covering this aspect is narrow not only in this country but abroad as well. Although it is possible to find works related to the translation of specialised vocabulary in documentaries (Vyzas, 2022). Translation of terms mostly can be found in the analysis of book translation (Svečiulytė, 2008), (Saulis, 2008) or user manuals (Tarutytė, 2015). Hence, this field of research is worth investigating to lay a foundation for future works, related to similar issues.

The paper **aims** to examine the framework of proper rendition of terms in the Lithuanian subtitles of the selected feature films. To achieve this aim, the following tasks are laid out:

- to provide the notion, structure and taxonomy of terms;
- to inspect methods of translation applied in Lithuanian subtitles of the selected material;
- to investigate formal peculiarities of Lithuanian subtitles in selected feature films;
- to analyse strategies of text reduction in the Lithuanian subtitles of the selected material.

The object of this paper is the terms that are rendered in the selected audiovisual material.

For the research material, two films are selected: *Oppenheimer* (2023, directed by Christopher Nolan and based on the life of Robert Oppenheimer, one of the main creators of the atomic bomb) and *Tesla* (directed by Michael Almereyda and released in 2020) depicting fragments of Nikola Tesla's life. The films are selected mainly because they portray historical figures and employ terms that truly exist in the world of science, instead of science-fiction films which may alter certain meanings or functions of concrete terms. This is relevant because science fiction films may serve more as a form of entertainment, unlike films based on scientists that existed or events that happened which may serve as, in a way, educational material to some extent. The scope of the paper covers two films in order to compare the results in different audiovisual material and establish more elaborate and accurate conclusions, as the research of one film may be insufficient.

In the theoretical part of the thesis, the descriptive method of research is employed to outline the definition, structure and types of terms, reveal the methods related to their translation, discuss the mode of subtitling, as well as various restrictions associated with this mode of audiovisual translation and principles on the way the text may be condensed by applying a process, called text reduction. In the empirical part, quantitative and qualitative methods of the research are applied in order to present statistics related to the total amount of subtitles discovered in the films, the share of subtitles with terms among them, as well as the examples established in tables to present a thorough analysis and observed facts. These methods will rely on the theoretical material for the multiple case studies (two or more cases, e.g. in this paper, two feature films).

This Master's thesis is made up of a list of contents, an introduction, two chapters of theoretical material with two subchapters each, two chapters of empirical analysis that both cover 4 subchapters, conclusions, a list of references, English, Lithuanian summaries, and appendices.

1. PROPERTIES OF TERMINOLOGY

Words are the linguistic units that are used by people as a means of interaction. Words also compose one of the focal points of the paper, terms. However, although terms are made of words, not every word can be considered a term. Yet, establishing boundaries between these linguistic units is not an easy task. Traditionally, words are “universal units of expression which have universal intuitive recognition by native speakers, in both spoken and written language” (Crystal, 2008, p. 521). The concept of term surpasses the boundaries of the word, as the relation between word and notion is not defined clearly, whereas the relation between term and notion is designed precisely (Kazlauskienė, Rimkutė, & Bielinskienė, 2005, p. 213). For example, the word *bream* in standard language may be defined as “groundling similar to bream with scales of golden shade” (Kazlauskienė, Rimkutė, & Bielinskienė, 2005, p. 213); whereas in terminology, it may be described according to the attributes necessary for fish systematics as a fish, belonging to carp family; mouth semi-interior and protruding forward like bellows; yolk-sac in the shape of a cigar, etc (Kazlauskienė, Rimkutė, & Bielinskienė, 2005, p. 213). Consequently, the key characteristic of the term is its precisely defined content (Kazlauskienė, Rimkutė, & Bielinskienė, 2005, p. 213). Terms tend to be restricted “in time, set or appointed time” and have a clear “end, boundary”.¹ This notion is supported by the Lithuanian scholar Keinys, who writes that terms are associated with a particular field or branch of human activity (Keinys, 2005, p. 229). Silvia Pavel and Diane Nolet argue that terminology is “the set of special words belonging to a science, an art, an author, or a social entity” (2001, p. xvii). Thus, by taking this into account, it may be said that terms are an irreplaceable part of scientific language used by specialists of a certain field (e.g. doctors, mathematicians, architects, linguists, physicists). In this case, speakers, working in other areas, may not comprehend this specific language (Kazlauskienė, Rimkutė, & Bielinskienė, 2011, p. 211). It is also worth noting that in the case of defining a concrete object, the term may consist of not only a single word but also of several linguistic units, whereas words tend to function on their own, except in the cases of compound words (football, sunshine).

For the sake of establishing the ground for the empirical material, it is beneficial to distinguish characteristics of terminology, delineate their role in the audiovisual content, as well as discuss methods of term translation.

¹ Dictionary Reference (2016). Word. Available at: <http://dictionary.reference.com/browse/word?s=t>

1.1. Notion and Specificity of Terms

Terms, as particular linguistic units, are specific for their different linguistic structure. Regarding this, Robert Dubuc (1997, p. 5-6) proposes a particular taxonomy of terms. The scholar lays down three different types of terms; namely, simple, complex terms, and, terminological phrases.

- Simple ones are terms that consist of one linguistic unit, with or without affixes and may be related to a separate part of the utterance. In this case, they are considered to be a single concept in a particular field (e.g. architecture, interconnection). Simple terms also include words that consist of more than one morpheme (e.g. commentator) as the affixes and their combining form cannot be held as separate terms (Dubuc, 1997, p. 38).

- Complex terms likewise represent a single concept but consist of two or more simple or complex words in their regard (e.g. desktop publishing, computer-aided design) (Dubuc, 1997, p. 5), and eliminating any element can result in a change of a concept (Dubuc, 1997, p. 38).

- Terminological phrases “constitute turns of phrase characteristically used in a special field” (e.g. connected to a central switch) (Dubuc, 1997, p. 5-6).

Regarding term creation, several formation types may be identified. First is a creation that enriches vocabulary with novelties, such as designations or neologisms (Dubuc, 1997, p. 131). Next is the composition and compound of derived forms as a source of new terms in a special language, since composites present many cons, “including potential precisions and transparency” (Dubuc, 1997, p. 132). Another is borrowing from other languages (in the case of English, it tends to borrow words from many languages it comes across: Latin, Greek, French, German) (Dubuc, 1997, p. 133).

The scholar also specifies four methods (Dubuc, 1997, p. 134-135), during which terms are created.

- Semantic change, in which an already existing word is given a new meaning.
- Adoption, in which an established word is given a new meaning.
- Morphological change when an existing word is shortened or merged with formative elements.
- Conversion, during which a term is coined by changing the grammatical class of an existing word, and borrowing.

Various words of standard language may be employed as terms (e.g. sugar in certain branches of science, such as cuisine, may be used as a term. Also, its plural form *sugars* (a certain class of chemical substances) also displays the transition from word to term in the field of chemistry

(Kazlauskienė, Rimkutė, & Bielinskienė, 2011, p. 211). The opposite process, when terms are transformed into non-terms, is possible as well. Two factors are behind this:

- 1) shortening process or common terms, e.g. the shortening of internal combustion engine to simply engine;
- 2) several terms may enter the standard language and lose their terminological meaning, such as electricity, screen, concert, friction (Kazlauskienė, Rimkutė, & Bielinskienė, 2011, p. 212).

Although terms tend to possess a strictly defined notion, it is worth noting that the identical phrase or word may be used in more than one branch of science; thus, it may carry a separate concept according to different fields (e.g. point in mathematics and point in sports) (Keinys, 2005, p. 229). In the translation process, this fact is quite relevant, as the translator must acknowledge the whole context to select a proper equivalent.

Terminology is also an inseparable part of the scientific (a variation of language used in texts of scientific style, scientific discussions, etc.) or professional language (language employed by the professionals of a specific field, e.g. doctors, mathematicians, architects, linguists, etc.) (Kazlauskienė, Rimkutė, & Bielinskienė, 2011, p. 211). Professional language tends to possess words that may be difficult to understand for the representatives of other professions (e.g. *hemeralopia* is a medical term when a person has trouble seeing or completely cannot see in the dark). Hence, when terms are used in different contexts, they may serve as a piece of educational information if their content and usage are explained.

Terms that appear in the content, selected for the paper, are related to specific branches of science. Thus, it is relevant to define the characteristics of these sciences to establish more reasonable grounds for the selection of the terms in the empirical part. Terms analysed in the paper are attributed to the following sciences:

- ***Astronomy***. Study of objects beyond the boundaries of planet Earth and the activities by which these interact with each other (Fraknoi, Morrison, & Wolff, 2016, p. 13).
- ***Chemistry***. The study of the interactions of matter not only with other matter but also energy (Ball, & Key, 2014, p. 1). This branch of science may be subdivided into more specific fields: analytical, physical, organic, inorganic chemistry, etc (Franceschetti, 2016, p. 10).
- ***Mathematics***. Science of relationships between numbers, spatial configurations, abstract numbers. May be divided into pure mathematics (geometry, arithmetic, algebra, calculus,

trigonometry) and applied mathematics (mechanics, statistics, numerical analysis, computing, the mathematical theories of astronomy, electricity, optics, thermodynamics, atomic studies).²

- **Medicine.** Discipline related to the prevention, diagnosis, treatment of diseases, as well as the maintenance of health.³

- **Physics.** It focuses on various laws controlling the structure of the universe. This science is concerned with the interrelationship between energy and matter, as well as the forces, which exist between objects⁴. Physics may be subdivided into mechanics, acoustics, heat, electricity and magnetism, atomic and molecular physics, nuclear physics, solid-state physics and others (Gray, 1972, p. vi-vii).

Physics itself may also cover some smaller branches of science. For example, it may include nuclear physics which examines “the composition of nuclei, their structure and the forces that hold together the different building blocks which form the atomic nuclei” (Demtröder, 2022, p. 1). In addition to this, different sub-branches of sciences, e.g. physical chemistry and chemical physics are interconnected; in fact, they may be viewed as “two sides of the same coin” (Franceschetti, 2016, p. 10).

Hence, it may be stated that terms have a strictly defined meaning that is not interchangeable but may fluctuate according to the different sciences it is related to. Thus, it poses challenges for translators, as they not only have to possess sufficient knowledge to translate them properly but also acknowledge the whole context to render a suitable equivalent for the viewer to comprehend the plot of the film.

1.2. Term Translation and Their Significance to the Context

Terms with their precisely defined content and specific structure may raise some issues during the process of translation. In that regard, terms typically can be likened to other linguistic units, such as culture-specific items, slang or puns. However, the main difference that makes terms stand out is the idea that they are rarely interchangeable. It is not usual to supersede them with synonymous expressions in the target language since their meaning/concept is strictly defined. For that reason, preciseness is crucial when conducting the translation process of the context-containing terms.

² Publishing. (1994). *Hutchinson Dictionary of Science*. Helicon Publishing.

³ Czabanowska, Katarzyna. (2014). *Learner's Dictionary for Students and Professionals: English for European Public Health*.

⁴ A Dictionary of Science. Fifth Edition (2005). Oxford University Press.

However, the first step before focusing on the challenges arising in the term translation is the establishment of the basis for the concept of translation itself. Usually, it is a complex process to transfer ideas from the source to the target language. Eugene Nida and Charles Russel Taber describe that “anything that can be said in one language can be said in another, unless the form is an essential element of the message” (Nida, & Taber, 1969, p. 4). They propose the concept of equivalence and claim that it is an inseparable part of the translation, described as “the relationship between a source text (ST) and a target text (TT) that allows the TT to be considered as a translation of the ST in the first place” (Baker, & Hochel, 1998, p. 77). When it comes to the translation of terminology, equivalence is one of the key aspects, as the terms, due to their precisely defined notion, are difficult to replace with other words. Regardless of this, the text, often, may need to be adjusted in some way. It is notable that in certain situations, “languages do not correspond” (Nida, & Taber, 1969, p. 5), e.g. it would be rather difficult to recreate the rhythm of Hebrew poetry, acrostic features of specific poems or frequent alternation that is intentional (Nida, & Taber, 1969, p. 5). The material has to be “added, omitted and changed”, nevertheless without a doubt it has to be “a translation fit for its purpose” (Edwards, 2014, p. 295). This may also be true to the term translation, as in some cases it may be rather difficult to establish a direct equivalent in the target language due to various reasons. Hence, when translating terms, examination of the specifics of a certain field of science in finding a proper equivalent in the target language or even inventing a new one if such does not exist in the target language is unavoidable, especially when neologisms (“newly coined lexical units or existing lexical units that acquire a new sense”) (Newmark, 1988, p. 140) appear in the context.

Terms translation itself is one of the more specific fields of translation. Cabré (1999) describes challenges, related to terms that emerge in both source and target language. In the former, it is beneficial to identify the concept of the term that is presented in the source language text. Then confirmation of the specialised nature of the terminological unit and identification of the denominative alternatives of the term, as well as the conditions that are necessary for the term to be used in the texts are necessary. When translating the term to the target language knowledge if an equivalent of the term in the target language exists is useful. Only afterwards the translator can specify the most adequate equivalent after considering the topic and finding out whether a term includes either specific or restrictive grammatical usages. Finally, exploration of the prototypical combination of the terminological units and familiarity with them, understanding of customary phraseology in the particular field, denominative alternatives that may be applied to the single concept are necessary to ensure the fact that the denominative unit that was selected corresponds precisely to the concept.

Matamala (2010) presents some additional challenges of term translation. Among them, there is the identification of a term when it has some general meaning. Next is understanding the term itself, as well as finding the proper equivalent. Another notable issue is the absence of/failure to discover the direct equivalent, which leads to the creation of new terms, paraphrasing, employment of loanwords or language mechanisms. Facing denominative variations in some languages (the translator must choose the most suitable meaning of the term in the target language as there may be several variations of it) also occurs. Besides, despite the fact that terms contain their fixed, precisely defined meanings, some equivalents of specific terms in different languages may cover a broader or narrower meaning, e.g. the translation of the Lithuanian mathematics term “aibė” (a collection of different things) is “menge” in the German language, which includes the broader concept (José Ortega y Gasset, 1959).

All of these challenges arise in the translation of terms in literary texts; hence, when these linguistic units are detected in audiovisual material, even more issues arise due to time and space limitations of different modes. In such cases, translators also have to take into account visual and audio cues to make proper translations. Thus, the task that the translator has to accomplish becomes even more difficult.

For this reason, the first step in relieving the burden when translating terms, is the selection of suitable translation methods, as this helps to shape at least the initial frame and boundaries of the translation. A unified list of the translation methods does not exist, as different scholars, such as Alina Baravykaitė (2005, p. 10), Peter Fawcett (1997, p. 41-50) or Peter Newmark (1998, p. 45-46) provide separate classifications. When reviewing these methods, it is visible that they have similarities and common points, as some scholars present an expanded, more complex or opposite – shortened list of methods, presented by others. However, the qualities required for term translation are typical for Peter Newmark’s translation methods (1998, p. 45-46), consequently, they are utilised for the study:

- **Word-for-word translation.** This method of translation covers the maintenance of the word order found in the source language and the translation of words by their most frequent meaning. The overall context is not taken into account. Typically used to comprehend the rules of the written language of the source language or to understand a text during the pre-translation process.
- **Literal translation.** A translation method that is similar to word-for-word translation; however, this translation strategy focuses on the grammatical constructions that should be adjusted according to the norms of the target language.

- **Faithful translation.** Used to recreate precisely the same contextual meaning of the original idea, but also acknowledging the constraints of the grammatical structures of the target language.

- **Semantic translation.** Typically, a difference between faithful and semantic translation methods may be distinguished as follows: semantic translation tends to acknowledge the aesthetic value of the source language text more; hence no assonances, word-plays or even repetitions are produced in the translated text. Cultural words not playing a relevant role may be translated by more neutral rather than cultural equivalents.

- **Adaptation.** Typically regarded as the “freest” form of translation. It is generally used during comedy, poetry translation. The main messages of the original are preserved but culture is adapted to be more suitable for the speakers of TL. For example, a literal translation of poetry would result in a loss of language beauty, figures of speech; thus, it is preferable to convey only the themes of the original by inserting them into a new shape.

- **Free translation.** The content is reproduced without the form of the original. Often a longer paraphrase than the original one is utilised.

- **Idiomatic translation.** The main meaning of the original idea is rephrased using a colloquialism or idiomatic expression, even though they do not exist in the original.

- **Communicative translation.** Rendering of the contextual meaning in such a way that content and language are acceptable and comprehensible to the target language audience.

Notwithstanding this, as it is already established, terms have clear semantic boundaries. Thus, the designated translation method is considered to be literal translation when an equivalent of the term is detected in the target language. Hence, more flexible translation methods in audiovisual translation shall be employed with caution, as the change in meaning or removal of the term may result in the loss of important contextual details relevant to the plot. Thus, it is necessary to take into account all the factors and make a calculated decision, as the terms, on their account, carry great importance and are placed in feature films for particular reasons.

Terms are frequently employed in scientific works, presentations, etc. However, they are also utilised in audiovisual material as well. Terms, as such, are not only in different kinds of documentaries covering separate phenomena or science, such as historical periods, geography, engineering, etc. These linguistic units may also appear in feature films that are related to some certain branch of science. Taking into account that nowadays feature films tend to shape, cultivate, or reinforce the cultural meaning of science (Kirby, 2014, p. 3), terms tend to carry the educational role in providing some knowledge to viewers about certain scientific aspects. According to Kirby

(2014, p. 4), the exploration of scientific communication in films covers four basic research questions:

“1) How is science representation constructed in the production of cinematic texts? (*Production*), 2) How much science, and what kind of science, appears in popular films? (*Content Analysis*) 3) What are the historic and contemporary cultural interpretations of science and technology in popular films? (*Cultural Meanings*), and 4) What effect, if any, does the fictional portrayal of science have on science literacy, public awareness of, and attitudes towards, science? (*Media Effects*).”

Films usually have the power to influence public perceptions and science, as well as raise awareness of an issue in the scientific field (Kirby, 2011). Thus, proper rendition of terms, presented in the audiovisual content, is necessary to deliver a clear message and present a thorough, consistent storyline. For that reason, filmmakers tend to hire professionals of a particular field to help create as accurate an environment as possible. According to Kirby, nowadays, it would be difficult to imagine a contemporary film or television production involving a scientific background that did not employ a scientific consultant (2011). Some of the consultants (Frederick Ordway for *2001: A Space Odyssey* (1968), Donna Nelson for *Breaking Bad* (2008–2013), etc.) even write recollections about their experiences, when working with a specific audiovisual product.

In the past, some case studies have been conducted on the influence of scientific films' on the audience's views. For example, viewers were surveyed about their opinion on climate change before and after watching the film *Day After Tomorrow* (2004, director Roland Emmerich). Moreover, similar studies were conducted in Germany (Reusswig et al., 2004), Britain (Balmford et al., 2004; Lowe et al., 2004), and the United States (Leiserowitz, 2004). When analysing the results, the opinion of the viewers interviewed in the United States barely changed. British audience, who also viewed the film, had a greater motivation to act on climate change.

However, it is worth noting that the science in feature films must be made “appealing” to the audience. The backbone of this relies upon the fact that the films are supposed to be entertaining. Kirby (2010, p. 10) mentions that he has worked with scientists who constantly ask the question “How can we make the science in entertainment products more accurate?”. Instead, he points out that a more accurate question would be “How can accurate science make your film better?”. The scholar adds that science in cinema should not be obvious but rather “seamlessly integrated into the story and visuals” (Kirby, 2010, p. 10). Thus, science helps to enhance audiovisual products; however, it should not be forced on them for entertainment purposes.

Taking all of this into account, terms, used in the audiovisual content, play a significant role; therefore, the adaption or removal of these linguistic units may result in the loss of the main idea relevant to the plot (media effect). Hence, the translator should assess each case of the term usage

individually to prepare a solid translation product in any mode of audiovisual translation. The peculiarities, related to it, are established in the following chapter.

2. SUBTITLING AS A MODE OF AUDIOVISUAL TRANSLATION

Audiovisual translation (AVT), according to scholars Jorge Díaz-Cintas and Alina Remael, is utilised “to encapsulate different translation practices used in the audiovisual media – cinema, television, VHS – in which there is a transfer from a source to a target language, which involves some form of interaction with sound and images” (2007, p. 12). Elena Di Giovanni and Yves Gambier (2018, p. 50) present a broader concept of AVT:

“There are at least two main clines: verbal-non-verbal and audio-visual. The importance and number of certain signs are always relative: the importance of sound can outweigh visual semiotic forms in certain sequences; the film code can outweigh language signs in other sequences”.

Therefore, it may be stressed that besides verbal information, AVT acknowledges visual and audio material. The music, shots, various sequences may influence the way certain information should be translated, as they provide different cues.

All of the audiovisual translation modes are related to different kinds of restrictions, e.g. in dubbing, various types of synchronies must be acknowledged, namely: lip-synchrony (adjusting the lip position in the dubbed version according to the utterances) kinetic synchrony (matching the dubbed version with the body language or other actions displayed on the screen) and isochrony (the dubbed text cannot exceed or fall behind the period during which the actor’s (or character’s) mouth is visibly open) (Chaume, 2012, p. 12). Voice-over deals with similar kinds of synchronies: isochrony (the viewers should be allowed to hear the beginning of the phrase which is followed by its translation that ends slightly before the ending of the original line), action synchrony (synchronisation of translation with the images or visual sequences), kinetic synchrony (like in dubbing, body movements are matched) and, finally, literal synchrony (the ideal way, during which the first and the final word or the utterance are translated literally) (Matamala, 2020, p. 134-135). Regarding restrictions, subtitling is no exception. Yet, unlike other modes, it is not an audible form of translation.

Subtitling, as such, is considered as “condensed written translations of original dialogue which appear as lines of text, usually positioned towards the foot of the screen. Subtitles appear and disappear to coincide in time with the corresponding portion of the original dialogue” (Luyken, & Herbst, 1991, p. 31). Thus, subtitles are a written translation that is distributed on the screen; hence, it does not cover the original soundtrack, unlike other modes (voice-over or dubbing). This means that “significant features of spoken language, such as intonation, pitch and volume, are lost” (Edwards, 2014, p. 304); thus, acting skills, such as the ability to modify the voice, convey the emotions, are not required in this mode. Subtitling also aims to offer a regularised and standardised form of language, due to the role of factors, such as avoidance of interruptions, inconsistencies and unusual forms of language in order not to disrupt reading and comprehension (Edwards, 2014, p.

304). Consequently, high-quality subtitles not only enhance the viewing experience but may even help when improving language skills (Ulvydienė, & Aleknavičiūtė, 2013, p. 19), since subtitling may assist in boosting spelling, writing and summarising abilities (Talaván Zanón, 2006, p. 47). Along with dubbing and voice-over, subtitling also shares a form of kinetic synchrony, as in the book, “Subtitling. Concepts and Practices” Jorge Díaz-Cintas and Aline Remael note that “the subtitles should not contradict what the characters are doing or saying on screen, and the delivery of the translated message should coincide with that of the original speech” (Díaz-Cintas, & Remael, 2021, p. 2).

However, subtitling also has restrictions in time and space, specifically the number of lines per subtitle, the amount of number of characters, text segmentation, and lastly, the duration during which subtitle appears on the screen; therefore, it is rather difficult to convey all the uttered information of the source text in the subtitles. The following subchapter establishes concrete requirements related to these constraints.

2.1. Spatial and Temporal Requirements for Subtitles

Subtitles, usually, in professional interlingual subtitling are “limited to a maximum of two lines, which occupy no more than two-twelfths of the screen image” (Díaz-Cintas, & Remael, 2021, p. 93). The backbone of this is the fact that the subtitles should be “uncluttered and avoid attracting attention to themselves, whether formally or linguistically” (Díaz-Cintas, & Remael, 2021, p. 93). According to Neves (2005, p. 201), the main indicators for using one or two lines are the rhythm of audiovisual texts, the amount of subtitled speech and a thoughtful concern for synchronisation. In the case of aesthetics, when the subtitles are aligned at the centre, “a recommendation based on aesthetics propounds the pyramidal structure, whereby the top line should be shorter, whenever possible, in order not to pollute the image” (Díaz-Cintas and Remael, 2021, p. 100). However, according to these scholars, the overriding factors, when determining line breaks, are considered to be the syntax of the original and keeping sense blocks together, to enhance the readability of the translated text. Hence, the pyramid structure should not be forced in every situation possible.

The amount of the subtitled text is also restricted because very long lines would place a heavier burden on the viewer and would cover a great portion of the screen. It is also notable that quite long subtitles potentially would exceed the “safe area”. Technically speaking, it is the visible area of the screen in which the text will not be cut off regardless of the margin of the video image that is not normally visible (Díaz-Cintas and Remael, 2021, p. 94). The dimensions of the safe area slightly vary based on different software. Consequently, staying in the safe area is essential in order

not to lose some linguistic elements, otherwise subtitles that appear on the screen may exceed the borders of the screen. For these reasons, Díaz-Cintas and Remael (2007, p. 84) establish that the maximum number of characters in one line is 40 or 41 in cinema. This amount may increase even up to 43 characters in some film festivals. Yet, the scholars add that traditionally, the maximum number of characters in one line may fluctuate between 35 and 42 characters (Díaz-Cintas and Remael, 2021, p. 105). On a separate note, the British Broadcasting Corporation (BBC) have its own specific guidelines for subtitling of broadcasts and sets the maximum number of characters at 37⁵. According to requirements in Scandinavian countries, where subtitling is the most dominant mode of audiovisual translation, up to 35 characters per subtitle are allowed; though there are instances when this number is exceeded (Pedersen, 2011, p. 20). Another important factor is the type of font. Different types of fonts are also a relevant element, as separate fonts take contrasting amounts of horizontal space (Díaz-Cintas and Remael, 2021, p. 97). This means that the same line with the identical number of characters may appear to be longer or shorter depending on the font. As a result, font without serifs (*e.g.* Arial, Helvetica, Times New Roman) is recommended to use (Díaz-Cintas and Remael, 2007, p. 84), which is also easier to read. Characters in one line may also differ based on the language. For example, in Latin or Hindi alphabets, the number of characters allowed is typically higher than compared to Chinese, Korean or Japanese languages (16 characters in one line) (Díaz-Cintas and Remael, 2021, p. 97). The font size plays a role as well, as the greater the size, the fewer characters may be used. Variables such as viewing distance, screen resolution influence calculations of the size of the font (Díaz-Cintas and Remael, 2021, p. 96). Taking into account the information established in this paragraph, it can be stated that no unified rule for the maximum number of characters in one line exists, as the number of characters may vary based on factors, such as the font, screen size, the country, broadcaster, company or even scholar that sets the number. However, the paper analyses two feature films; therefore, the maximum of 42 characters in one line recommended by Díaz-Cintas and Remael is suitable for their examination.

Another aspect that the subtitlers must acknowledge is already slightly touched upon in this chapter. It is the line breaks or in terms of subtitling, text segmentation. When put in simple words, it is the spot where a long subtitle is distributed into two. Technically, lines should be ended at concrete, logical points since different “complex sentences are difficult to keep track of and, whenever possible, should be split into shorter ones” (Díaz-Cintas, & Remael, 2021, p. 171). Díaz Cintas and Remael (2007, p. 172) state that “a careful segmentation of the information can help reinforce coherence and cohesion in subtitling.” The scholars also add that subtitles must be

⁵ *BBC Subtitle Guidelines*. 2024 Retrieved from <https://www.bbc.co.uk/accessibility/forproducts/guides/subtitles/>

constructed in such a way that the viewer can easily comprehend them in the short time they are visible on the screen. Relying on scholars' insights (Díaz-Cintas, & Remael, 2021, p. 173-174), the subtitler should try to acknowledge the following segmentation rules of the subtitled text:

- words shall not be hyphenated;
- when a subtitle is made of two sentences, the most appropriate way to divide it would be to distribute them into separate lines;
- if a subtitle consists of a sentence with two subordinated or coordinated clauses and it would not be possible to place one after another because the maximum number of characters per line would be exceeded, the second clause should be placed into the second line;
 - noun or verb phrases should not be divided, attributes should not be separated from nominals or predicates, proper nouns should stay in the same line with the noun phrase;
 - predicates should not be separated from their direct or indirect object;
 - if a sentence is a reply to a question or some sort of statement, it should be placed on the second line.

Whenever the text segmentation rules are followed, the viewer is able to quickly grasp the information presented in the subtitles. Otherwise, the reading speed of the viewer may be slowed down, especially if other factors are present, such as complex vocabulary or syntax, the abundance of numbers, demanding dialogue containing plays on words, cultural references and metaphors, as well as others (Díaz-Cintas, & Remael, 2021, p. 107).

Subtitlers also are required to acknowledge the temporal aspect (presentation time) of the subtitles. It is a form of synchronisation, during which the subtitles appear on the screen. This process is covered by spotting, a task used to determine the exact moment when a subtitle should appear and when it should leave, based on a variety of temporal and visual considerations (Díaz-Cintas, & Remael, 2021, p. 102). The scholars add that the task of spotting becomes increasingly challenging the faster the pace of the dialogue exchanges is. Hence, suitable presentation time may determine the quality of the subtitles as well. For example, if the subtitle is displayed for an insufficient amount of time, the viewers may not be able to catch all of it. In the opposite situation, if the subtitle is kept on the screen for too long, the viewers will read it again and again, as it draws the attention away from the action sequences. Consequently, to gauge the period, at which the subtitle is visible on the screen it is necessary to estimate the viewers' reading speed. Although it is not an easy task, which may depend on different factors, generally a "six second rule" is utilised (Díaz-Cintas, & Remael, 2007, p. 23). This is an interval at which an average viewer reads and comprehends a subtitle, made up of two lines, 35-37 characters each (Díaz-Cintas, & Remael, 2007, p. 23). According to the results, an average reading speed is 70-74 characters in 6 seconds. This

information is then employed to evaluate the amount of information the subtitler can put into shorter lines of the subtitle. This rule, however, is mostly employed in television; hence the time, during which a subtitle is visible on the screen may vary according to separate media, such as cinema, video, DVD or internet platforms (Díaz-Cintas, & Remael, 2007, p. 23). A common practice in such cases is to aim for temporal synchronisation. During it, dialogue and subtitle content are paired up in an audiovisual production (Díaz-Cintas, & Remael, 2021, p. 101). In other words, the subtitle presentation timing matches the total time during which the dialogue is audible.

All these requirements pose challenges to translation. The translation shall preserve all key ideas of the source text but should not exceed the maximum number of characters and lines, subtitles should be segmented at logical and comprehensible points in order not to disrupt the flow of reading. Proper demonstration time also contributes to the conciseness and clarity of the subtitles. These requirements also restrict the translation of terms, as long terms with other bits of information may be difficult to render. In such cases, a process, called *text reduction*, as an action when linguistic units are condensed and shortened is employed.

2.2. Role of Text Reduction in the Process of Subtitling

The total amount of information uttered in the source language may be difficult to distribute to the subtitles due to temporal and spatial limitations. In such cases, the process of text reduction is employed. Text reduction influences the fact that some lexical items are left out, bits of information, uttered in the ST are condensed and rendered into subtitles in such a way, that the formal requirements of the subtitles, defined by scholars, are met. Other reasons, why this process is necessary when producing subtitles, are related to viewers' skills to understand speech faster than they absorb textual information; therefore, subtitles must give them a sufficient period to register and comprehend what is being written on the screen (Díaz-Cintas, & Remael, 2021, p. 147). Besides, the audience should be given the opportunity to acknowledge the action, presented on the screen and listen to the unique soundtracks of audiovisual products. Consequently, the viewers must be given enough time to combine reading, watching and listening (Díaz-Cintas, & Remael, 2021, p. 147).

Two types of text reduction may be identified: *partial* and *total reduction* (Díaz-Cintas, & Remael, 2007, p. 146). According to scholars *partial reduction* is achieved with the condensation and an aim to convey the meaning of a phrase concisely; whereas *total reduction* is defined as a process, during which some specific lexical items are eliminated or omitted. They add that time and space restrictions play a role in influencing the subtitler's decision when to use *partial* or *total*

reduction. The amount of text, which can be eliminated by the subtitler, varies on a specific film or scene (Díaz-Cintas, & Remael, 2007, p. 146). This means that context-relevant linguistic units should be maintained and only the elements, which may be considered to be redundant, can be eliminated.

If some sort of text reduction strategy is necessary, the subtitler opts to “eliminate what is not relevant for the comprehension of the message, and/or reformulate what is relevant in as concise a form as is possible or required” (Díaz-Cintas, & Remael 2007, p. 146). The subtitler must acknowledge a film or any other audiovisual product as a whole unit, as even simple lines may have a significant impact on the context of it (Díaz-Cintas, & Remael, 2007, p. 146). Thus, the subtitler shall be cautious when removing certain linguistic units and evaluate whether the omission will not lead to the loss of relevant details.

On the whole, different text reduction strategies, involving various linguistic units, exist. In their book, *Audiovisual Translation. Subtitling* (2007), Díaz-Cintas and Remael identify subtitling strategies, related to two forms of text reduction, namely, with ***condensation and reformulation at the word level*** and ***condensation and reformulation at the clause/sentence level*** (Díaz-Cintas, & Remael, 2007, p. 150-153). The former covers the following strategies:

- ***Simplification of verbal periphrases***. A shortening of verbal periphrases that in certain situations may be quite long and, as a result, would take too much space on the screen; therefore, subtitlers frequently replace them with shorter forms, if it is possible.
- ***Generalisation of enumerations***. Enumerations found in the script may be generalised with one shorter phrase. Although it alters the speaking style of the speaker, it has the advantage of summarising the idea of enumeration.
- ***Usage of a shorter near-synonym expression or equivalent***. Shortening of a certain word or phrase, while replacing it with another shorter word or phrase which has (nearly) the same meaning as the original one.
- ***Usage of simple rather than compound tenses***. Reduction of lines of the subtitled text that contains verbs of past tenses, when they are irrelevant to state that one particular action in the past happened before another. In this case, compound tenses may be replaced with simpler ones.
- ***Short forms and contradictions***. Usage of abbreviation and/or contradiction. It must be stressed that the usage of this strategy may change the register from polite to impolite or vice-versa; hence, the subtitler should take into account the overall setting and traits of the characters when making this change.

Condensation and reformulation at the clause/sentence level (Díaz-Cintas, & Remael, 2007, p. 154-161) includes the following strategies:

- ***Change of negations or questions into affirmative sentences or assertions, indirect questions into direct questions, etc.*** Changing negative sentences into affirmative (or vice-versa), substituting indirect questions with direct questions may help the subtitler save additional space while maintaining the meaning of the phrase as closely to the original as the situation allows.

- ***Simplification of indicators' modality.*** Modal auxiliaries usually suggest politeness, uncertainty in some particular situations, expectations or possibilities. In some cases, modal auxiliaries may be replaced with simpler expressions or removed; however, this process must be carried out cautiously in order not to change character traits in the target language.

- ***Changing direct speech into indirect speech.*** Modification of the phrase, uttered by a character, while keeping a close meaning to the original by omitting a presentative verb, which is usually used to introduce the speaker's words.

- ***Change of the subject in a sentence or phrase.*** Change of a subject in a specific line.

- ***Manipulation of theme and rheme.*** If speakers want to place a particular focus on new information (rheme), they usually insert it at the beginning of a sentence, before information that is already known (theme). Because of this, a neutral word order is altered, and some lexical units are placed at the beginning of the sentence instead of the end. In short, by using this strategy, the subtitler rearranges the word order; hence, the information presented in the sentence is generalised.

- ***Division of long and/or compound sentences into shorter/simpler ones.*** In some cases, a speaker may utter a lot of words in a short period of time or deliver complex sentences, which may be too long to be placed in subtitles. A solution to such a problem may be the distribution of such complex or long sentences into several shorter ones. In this case, it will be easier for the viewer to read several subtitles ending with a dot, rather than a comma. It is stated that shorter, simple sentences require less of a reading effort of the viewers, as they are not required to “tie up the end and the beginning of a sentence that does not appear on screen all at once”.

- ***Changing active sentences into passive ones or vice-versa.*** Shift from the performer to the action or vice-versa.

- ***Usage of pronouns (demonstrative, personal, possessive) and other deictics to replace nouns or noun phrases.*** It is a shortening of the nouns that the viewers are already familiar with (names, titles, etc.). Such changes with pronouns or deictics do not have a great influence on the context.

- *Merging of two or more phrases/sentences into one.* The strategy used to join several short phrases into one unit. Merging sentences in such a way can contribute to showing the connection between actions more clearly.

Finally, *omission* may also be used in order to eliminate some redundant words or phrases that were already given in previous subtitles or, once again, due to time or space limitations (Díaz-Cintas, & Remael, 2007, p. 162). The scholars add that they may also be omitted if “the images fill in a gap”.

In conclusion, appropriately used strategies of text reduction allow for conveying the same idea in a condensed way. In addition to this, its main function is to help avoid the violation of the spatial requirements of subtitles. However, not all linguistic units shall be removed as they may carry a significant role in the context. This particularly applies to terms that present a relevant helping to educate and transfer the key ideas connected to specific issues. Thus, if possible, they also should be maintained. However, each decision depends on a separate situation. It is worth stressing that the audio and visual channels may provide cues for the viewer on the particular topic and reflect the main meanings of terms on the screen, via music, etc. Therefore, it is possible to remove terms in such situations if they repeat the same ideas and viewers are not required to know them to understand the context.

All in all, the translation of terms in the mode of subtitling is a complicated process, burdened by various constraints that the subtitler shall acknowledge. The translation must take into account the guidelines of subtitling, not exceed the maximum number of characters, the subtitles themselves are aimed to be segmented correctly for clarity and, at the same time, are expected to produce good quality, convey all the main points of the source material. Hence, it is a challenging task; consequently, an analysis on how the subtitlers manage to cope with this task is conducted to test whether all necessary requirements of subtitling are met and if the terminology, mandatory for the context is rendered (and not sacrificed for the sake of meeting the requirements).

3. TRANSLATION, TERMINOLOGY AND ITS RELEVANCE IN THE SELECTED FEATURE FILMS

As it was already established, two feature films were selected for the analysis. Examination of a single film may be inadequate to provide sufficient conclusions, since one case may not reflect a full picture of the situation. Hence, two films involving famous scientists are selected, as they portray aspects related to real sciences.

3.1. Identification of Terms in *Oppenheimer*

The first feature film, selected for the analysis, is *Oppenheimer*. It is a 2023 film, based on the life of J. Robert Oppenheimer (1904-1967), a physicist, famous for his involvement in the creation of the nuclear weapon and leading the Los Alamos Laboratory of Manhattan Project. For his activities, Oppenheimer is called the “father of the atomic bomb”.

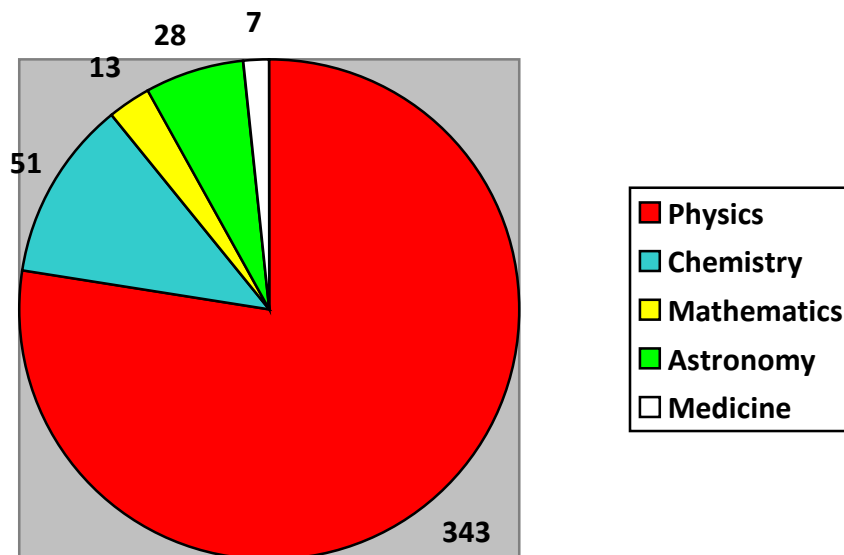
The film was written and directed by Christopher Nolan. It is based on the book *American Prometheus. The Triumph and Tragedy of J. Robert Oppenheimer* by Kai Bird and Martin J. Sherwin. The film features an ensemble cast consisting of Cillian Murphy, Robert Downey Jr., Matt Damon, Emily Blunt, Florence Pugh, and many other well-known actors. The film depicts Oppenheimer’s involvement in the Manhattan Project, his beliefs on the nuclear arms race as well as the security hearing, aimed to revoke Oppenheimer’s Q clearance (authorisation to work with Top Secret Data). Security hearing, as displayed, is initiated by Lewis Strauss, an American government official, for personal reasons, in order to diminish Oppenheimer’s public image.

The film portrays the development process of the atomic bomb; hence, various terms related to different sciences are mentioned. 413 subtitles with terms are detected in the film. The total number of subtitles in the film is 2919. Thus, the total share of subtitles with terms is ~14,15%. The running time of the film is 172 minutes. *Oppenheimer* was translated by Donatas Kazbaras.

The subtitles were reviewed via television on *Telia Play*. The film is rented for 3,90 Euros for 24 hours. Each subtitle is counted and selected manually during the viewing process. The subtitles are analysed by presenting statistical data, examining specific examples and presenting observations.

413 subtitles detected in the film *Oppenheimer* contain terms related to different branches of science (physics, chemistry, medicine, astronomy, mathematics), as nuclear bomb development involves multiple disciplines. Their variety is depicted in Chart 1.

Chart 1. *Division of terms in the film Oppenheimer*



Source: created by the author

As seen from the data, there are 442 terms observed in the subtitles. The terms are considered to be individual, as each case is evaluated separately (for example, if the term atomic bomb appears in two different subtitles, such situation is recognised to be two separate terms that are drawn into statistics). They are related to 5 branches of science. Based on content analysis, most of the terms, 343 are distinguished as physical terms. The reason behind this is the fact that the development of atomic weapons is closely associated with nuclear or quantum physics. Some examples of subtitles containing physical terms are provided in Table 1.

Table 1. *Physical term detected in the film Oppenheimer*

Source text	Lithuanian subtitle	Time code
ALVAREZ It's nuclear fission .	Tai branduolio skilimas .	00:26:51-00:26:53

Source: created by the author

Physical terms in the selected feature film often define processes related to nuclear fission or fusion as well as to the actions that occur during it, such as “bombarded it with **neutrons**” (Lt. *bombardavo neutronais*), “extra **neutrons** boil off” (Lt. *išmetami papildomi neutronai*), etc. Some of these terms fall in the category when they represent the names of branches of physics itself (quantum mechanics, quantum physics). Attention is also paid to the implosion process. Besides, there are numerous cases when various kinds of bombs are mentioned as well.

Table 2. *Mentioning of “bomb” in the film Oppenheimer*

Source text	Lithuanian subtitle	Time code
ROBB After the Russian A-bomb test did Dr Lawrence come to see you	Ar po rusų atominės bombos bandymo/ ⁶ daktaras Lorensas atėjo pas jus	02:22:24- 02:22:27
ROBB ...the development of the H-bomb , didn't you?	vandenilinės bombos kūrimą, ar ne?	02:36:27- 02:36:29

Source: created by the author

“A-bomb” and “H-bomb” frequently appear in the context of the film *Oppenheimer* in the matters of their development. Their necessity is also questioned and some risks related to possible arms race that resulted between the USA and the Soviet Union due to their development are also brought forward. Complex terms “Super bomb” and “thermonuclear weapon” are also periodically included.

Table 3. Mentioning of “AEC”

Source text	Lithuanian subtitle	Time code
ROBB ...with anybody connected with the Atomic Energy Commission ?	su kuo nors, susijusiu/ su Atominės energijos komisija ?	02:24:05- 02:24:07

Source: created by the author

The film also depicts various facts related to the already mentioned government official, Lewis Strauss, as well as the process of his political battle for the position of U.S. Secretary of Commerce. It eventually, resulted in him not being confirmed by the Senate. Thus, the mentioning of the complex term AEC (Atomic Energy Commission), whose member Strauss used to be, is also recurring throughout the film.

Table 4. Terminological phrase in the film *Oppenheimer*

Source text	Lithuanian subtitle	Time code
OPPENHEIMER How do you generate enough force to fuse hydrogen atoms ?	Kaip generuosi jėgą ,/ dėl kurio vandenilio atomai jungsis ?	01:00:12- 01:00:14

Source: created by the author

⁶ The punctuation mark, slash (/), used in the tables, is employed to display the line breaks between the lines of subtitles.

⁷ Red text highlight colour marks grammatical problems found in the Lithuanian subtitled text.

Terminological phrases are quite rare occurrences in the selected feature film but some instances of it are detected. In the given subtitle, processes related to the generation of force and fusion of hydrogen atoms are briefly mentioned. It is also observed that the word “kurios” is missing the letter “s” in the given situation.

Terms related to other branches of science are mentioned fewer times. For example, chemistry terms were mentioned on 51 occasions. Among them, the notion of “dynamite” and “TNT” can be distinguished.

Table 5. Instances of “TNT” found in the selected feature film

Source text	Lithuanian subtitle	Time code
FERMI Twenty thousand tons of TNT...	20 000 tonų trotilo...	01:43:41- 01:43:42

Source: created by the author

Besides this, various chemical substances also appear in the context of the film. Examples of this include “Potassium Cyanide” (Lt. *Kalio Cianidas*), “Plutonium” (Lt. *Plutonis*), “Hydrogen” (Lt. *Vandenilis*), “Deuterium” (Lt. *Deuteris*). Besides, several instances display the term “fire” (Lt. *ugnis*) or the process of ignition.

Table 6. Examples of complex terms found in the selected feature film

Source text	Lithuanian subtitle	Time code
BOHR He seemed more focused on heavy water.	Atrodė, jį labiau domina sunkusis vanduo.	01:22:20- 01:22:21
FERMI And does anyone want the side action on total atmospheric ignition?	Ar kas nors už šalutinį poveikį - atmosferos padegimą?	01:43:43- 01:43:46
LAWRENCE A chain reaction.	Grandininė reakcija.	00:27:42- 00:27:44

Source: created by the author

More complex terms related to chemistry may also be distinguished, although the cases are not frequent. Most of the time it is related to ignition of the atmosphere (potential side effect of nuclear device detonation) or mentioning of chain reaction that occurs during the detonation.

Furthermore, there are terms, related to astronomy (28 in total). In most cases, the planet Earth falls into this category, as the creation of nuclear weapons concerns the entire world due to the dangers it poses, and safety requirements related to it. One of the instances connected to astronomy

is the famous line from the book Bhagavad Gita that was quoted by Oppenheimer: “Now I am become death, the destroyer of **worlds.**”

Table 7. Example of a term related to astronomy

Source text	Lithuanian subtitle	Time code
OPPENHEIMER ...destroyer of worlds. '	“ Pasaulių naikintoju.”	01:52:47- 01:52:49

Source: created by the author

The world in the context of the film is mentioned several times. As it was already established, one of the initial issues in terms of atomic bomb creation revolved around the potential side effect of its ignition. It concerned a situation, in which the detonation of a bomb would cause a chain reaction. This process would continue until the whole atmosphere of Earth would be consumed. However, the calculations displayed that the chance of such an occasion is near zero.

Such calculations, as well as numbers, appear in the film *Oppenheimer*, as mathematics is another important factor in ensuring the proper functioning of the device. Mathematical terms are mentioned 13 times. Some of the occasions mention the name of mathematics as a science.

Table 8. Mathematics in *Oppenheimer*

Source text	Lithuanian subtitle	Time code
OPPENHEIMER The math says it can.	Matematika teigia, kad gali.	00:21:04- 00:21:06

Source: created by the author

The last branch of science, analysed in the paper, is devoted to medicine. Some substances or drugs are uttered, injuries or conditions caused by the bombing or radiation itself are mentioned from time to time. Most of them cover radiation burns or death itself.

Table 9. Example of medical terms in the film *Oppenheimer*

Source text	Lithuanian subtitle	Time code
MORRISON ...upon whom the skin was burned in stripes.	Po jais oda nudegė dryžiais.	02:11:51- 02:11:53
OPPENHEIMER She took barbiturates ... But there was chloral hydrate in her blood ...	Išgėrė barbituatų ,/ bet kraujy buvo chloralhidrato .	01:24:03- 01:24:06

Source: created by the author

All things considered, *Oppenheimer* frequently employs terms related to physics due to the themes and plot elements used in the film. All types of terms (simple terms, complex terms, terminological phrases) are detected in the film. Considering that *Tesla* depicts the life of another famous physicist, it is possible to expect similar results from this feature film as well.

3.2. Terms and their Grouping in *Tesla*

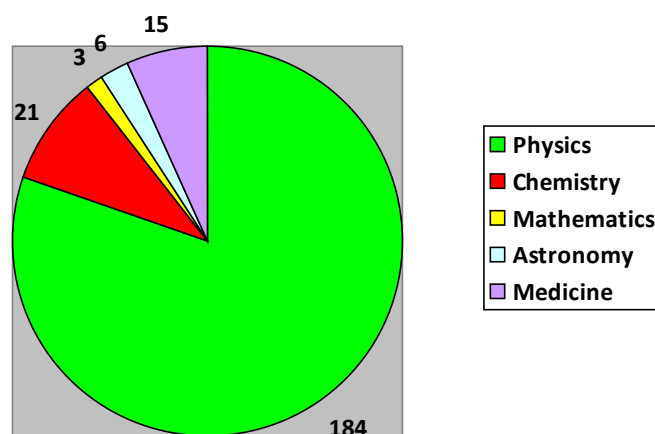
As was already stressed a few times, the second feature film selected for the analysis is the 2020 film, *Tesla*. It is directed and written by Michael Almereyda. The film portrays some glimpses of Nikola Tesla's (1856 – 1943) life. Tesla is known for his inventions, promotion of alternating current, as well as other achievements. The film portrays fragments of his work at Tom Edison company, the already mentioned ideas about alternating current, the investments made into his work, etc. Yet, the film was poorly received by the audiences⁸. The film's cast includes Ethan Hawke as Tesla, Kyle MacLachlan as Thomas Edison, Eve Hewson as Anne Morgan, as well as many others. The film's running time is 98 minutes. In total, 971 subtitles are detected. Out of them, 226 subtitles with terms are distinguished. The film was translated by Algimantas Rudys.

The film is reviewed under the identical conditions as the other motion picture, selected for the analysis, *Oppenheimer*. The film is rented for 3,90 Euros for 24 hours. Then, the film is viewed and all the subtitles are drawn into the appendix, separate cases are distinguished and the total number of subtitles is counted. However, it is noticeable that a certain portion of subtitles is missing when viewing the content on TV. It appears that whenever the narrator (the character of Anne Morgan with the computer) is speaking, the subtitles are absent. For this reason, it is briefly tested whether the situation is identical when reviewing the film via the same platform on a personal computer. The subtitles, in such case, appear. However, since the work does not utilise the review via two different platforms, only the analysis conducted when viewing *Tesla* on the TV is taken into account. For this reason, the percentage of subtitles is not presented either, as it would not be accurate.

Content analysis shows that in *Tesla*, just as in *Oppenheimer*, terms related to physics constitute the greatest portion. The overall division of terms is presented in Chart 2.

Chart 2. *Division of terms in Tesla*

⁸ *Tesla*. 2020 Retrieved from <https://www.imdb.com/title/tt5259822/>



Source: created by the author

The reason why physical terms are the most frequent is fairly obvious, as the film is devoted to one of the greatest contributors to utilising the alternating current, Nikola Tesla. Hence, AC/DC and various aspects, such as electrical resistance or alternators, are mentioned in the film.

Table 10. Example of physics term in Tesla

Source text	Lithuanian subtitle	Time code
MAN Now have you measured the electrical resistance of human beings?	Ar matavote žmogaus/ atsparumą elektrai?	00:27:09- 00:27:11

Source: created by the author

Besides AC/DC, various forms of “electricity” or lighting are established, units of electricity potential (volts) or power (horsepower) are mentioned, components of machines (coils, motors) or the machines themselves are established, processes, such as generation of electricity, are identified.

Complex terms may also be distinguished. AC/DC full forms (alternating current, direct current) are detected, even longer terms, such as rotating magnetic field and high-frequency waves. Some terminological phrases are also uttered.

Table 11. Terminological phrase in the film Tesla

Source text	Lithuanian subtitle	Time code
TESLA The key is the motor rotates by virtue of	Svarbiausia, kad variklis / veiktų indukcine jėga .	00:11:31- 00:11:33

induction		
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Source: created by the author

Other branches of science, once again, are mentioned far fewer times. Linguistic units related to chemistry appear 21 times. Most of them are related to chemical compounds, notably “water”, and processes, such as “fire”. In Table 12, the terms are used as a comparative material (e.g. to describe that the direct current is like water flowing through a pipe or identify safe/unsafe usage of alternating current by comparing it to fire).

Table 12. *Presentation of chemistry terms in Tesla*

Source text	Lithuanian subtitle	Time code
EDISON Direct current flows like water through a pipe.	Tiesioginė srovė teka/ kaip vanduo per vamzdį.	00:26:42- 00:26:45
BROWN Fire is dangerous if you stick your hand in it.	Ugnis pavojinga tik tada, jei kiši prie jos pirštus.	00:12:42- 00:12:44

Source: created by the author

Terms, related to astronomy, are also discovered, but most of them are related to the mentioning of “world”, as various inventions may be utilised all over the planet. However, there are also instances where “universe” or the complex term “Milky Way” is mentioned. An example of this is provided in Table 13.

Table 13. *Astronomy terms in Tesla*

Source text	Lithuanian subtitle	Time code
J.P. MORGAN ...the Milky Way to be muddy water ...	kad Paukščių takas yra purvinas vanduo ,	01:25:01- 01:25:01
TESLA The universe is a machine .	Visata yra mašina .	00:40:10- 00:40:11
TESLA ...it will transform the way the world works.	Tai pakeis pasaulio veikimą.	00:58:13- 00:58:15

Source: created by the author

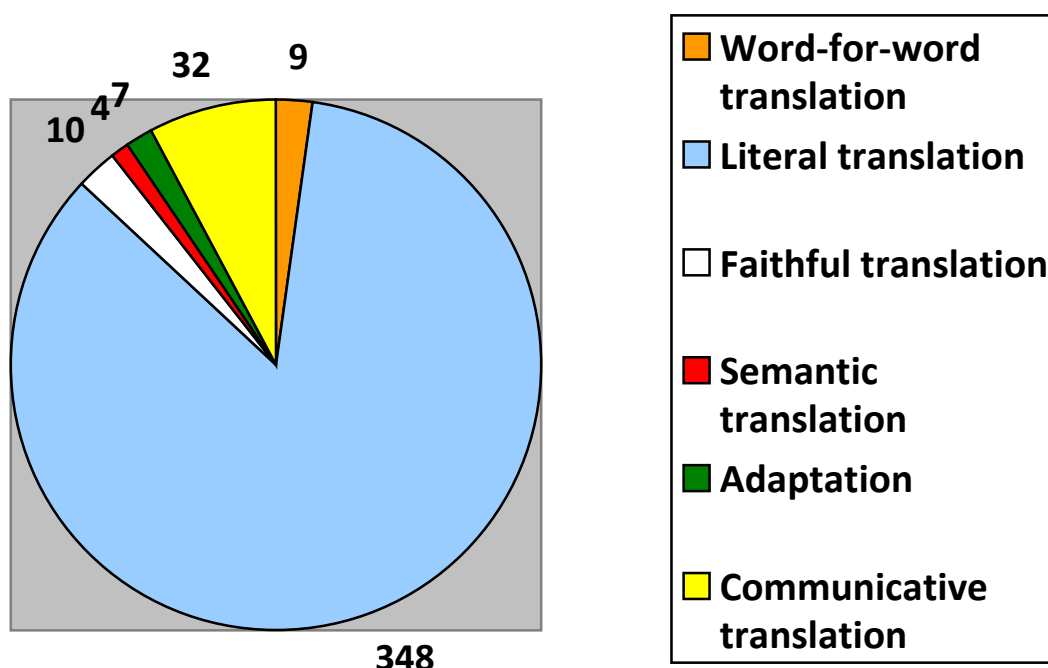
The last two types of terms are mentioned rarely: medicine is found in 6 cases, whereas mathematics is merely in 3. Medical terms are used to describe aftereffects of execution by using the process of electrocution, e.g. “He’d be mummified” or other conditions. Terms of mathematics are mentioned when describing numbers or mentioning the very name of mathematics itself.

Data displays similar results in both films. Terms of physics constitute the greatest portion of the detected terms. The terms of all tree types (simple terms, complex terms, terminological phrases) are also detected once again. The next step is conducting a more thorough analysis on how these linguistic units are rendered in the Lithuanian subtitles and presenting the observations.

3.3. Peculiarities of Term Translation in the film *Oppenheimer*

In the previous subchapter, a variety of terms is established. Terms related to all 5 branches of science (Physics, Chemistry, Astronomy, Medicine, Mathematics) referred to in the theoretical material are detected. The length of terms is uneven, as all three types (simple terms, complex terms, terminological phrases) can be identified in the research material. With such data being accessible, the next step is the examination of peculiarities related to their translation. This process is carried out by analysing each subtitle that includes a term and identifying any notable cases. During the work, different translation methods used to translate the subtitles⁹ were spotted. The division of translation methods is displayed in Chart 3.

Chart 3. *Translation methods in the film Oppenheimer*



Source: created by the author

⁹ Translation methods and text reduction strategies are applied when examining the whole subtitle rather than merely the term itself.

As seen from the chart, the most frequently applied method is literal translation, with 348 cases. Other translation methods are used far less – for a total of 62 instances combined. Free translation and idiomatic translation are not observed. Hence, statistics allow making an assumption that an attempt was made to search for a proper equivalent of the term in the target language, as literal translation is the most frequently applied translation method. To test the assumption, concrete examples are presented. The first case is provided further on.

Table 14. *Example of literal translation*

Source text	Lithuanian subtitle	Time code
OPPENHEIMER Yes, you. Your math's better than mine.	Taip, jūs./ Jūsų matematika geresnė už mano.	00:18:21- 00:18:23

Source: created by the author

In the provided example, Robert Oppenheimer is talking to the physician Hartland Snyder. Through the film, some opinions imply that Oppenheimer is prone to mathematical mistakes. Hence, in this scene, he is talking to Snyder about investigating a cycle related to stars. He asks Snyder to do calculations and equations, as his “math’s better” than his. Although the translation is literal and conveys the main idea of the sentence, the phrasing is a bit peculiar in the Lithuanian language, as it creates an ambiguity. It may appear that there are two different types of mathematics (one of Oppenheimer and the other of Snyder) rather than the fact that Snyder is better at mathematics than Oppenheimer. The name of mathematics itself is rendered properly but other parts of the sentence resemble the structure of the original utterance.

Table 15. *Another case of literal translation*

Source text	Lithuanian subtitle	Time code
OPPENHEIMER groupings of tiny energy waves bound together.	Susigrupuotos mažos energijos bangos .	00:31:16- 00:31:18

Source: created by the author

In another provided example, Oppenheimer explains quantum mechanics to his future wife, Kitty and mentions the terminological phrase. At first, he utters that bodies are mostly empty space, groupings of tiny energy bound together. In the Lithuanian subtitles, the second part of the phrase is divided into two sentences: “Iš esmės tai tuščia erdvė” and “Susigrupuotos mažos energijos bangos”. Although the second subtitle is translated more or less literally, the phrase “susigrupuotos”

appears to not fit in the context, as it does not correlate grammatically with the rest of the words in the subtitle. The reason behind this is the fact that the word “sugrupuotos” contains the additional prefix “si”, which alters the meaning of the verb, making it seem like the waves are personified and chose to be grouped together. Thus, the prefix is redundant in this particular example. The rest of the terminological phrase translation matches the original idea.

Table 16. *Final example subtitle with the literal translation*

Source text	Lithuanian subtitle	Time code
ROBB Didn't you try to kill it at the AEC meeting after the Russian bomb test?	Ar nebandėt jos nužudyt AEK posėdy/ po rusų bombos bandymo?	01:26:58- 01:27:00

Source: created by the author

In the given case, Roger Robb's character is gathering information about a super bomb. He asks Oppenheimer about his views on it and asks if he “didn't try to kill it at the AEC meeting”. The phrase is translated literally, as the part about killing is maintained by selecting an equivalent “nužudyt” in the Lithuanian language. However, such phrasing is not common in the Lithuanian culture and sounds peculiar as the collocation does not seem to fit in the context. There may even be a misunderstanding that Oppenheimer may have tried to kill someone instead of dismissing the idea of the super bomb. Therefore, another collocation is suggestible in such a situation.

Instances, in which ambiguity may be identified appear from time to time in other cases as well. A notable example of this is the translation of “H-bomb”.

Table 17. *Cases of H-bomb*

Source text	Lithuanian subtitle	Time code
ROBB You would have made the H-bomb too, wouldn't you?	Būtumėt sukūręs ir H-bombą , ar ne?	02:39:13- 02:39:14
RABI H-bomb.	H-bomba.	01:27:07- 01:27:09
TRUMAN ANNOUNCES H-BOMB PROGRAMME	TRUMANAS SKELBIA/ H-BOMBOS PROGRAMĄ	02:08:27- 02:08:29
STRAUSS to recommend arms control instead of the H-bomb.	siūlyt ginklų kontrolę/ vietoj vandenilinės bombos.	02:08:18- 02:08:21
ROBB ...the development of the H-bomb , didn't you?	vandenilinės bombos kūrimą, ar ne?	02:36:27- 02:36:29

Source: created by the author

H-bomb in one way or another is a recurrent phrase throughout the film. However, the translation of it differs in some cases, as in some the method of communicative translation is used to render its concrete meaning (Lt. *vandenilinė bomba*). In other situations, the term is rendered as “H-bomba”. Such phrasing may be found in certain sources, yet its overall usage in the Lithuanian language is rare. However, the same term is translated differently in separate subtitles. This creates inconsistency, as for some viewers it may be difficult to understand if this is the same bomb or another type of it. Theoretical material states that terms should not be interchangeable, thus it is advisable in such situations to choose one of the available translations.

Table 18. *Examples of A-bomb translation*

Source text	Lithuanian subtitle	Time code
RABI One thousand times the power of an A-bomb.	1000 kartų galingesnė už A-bombą.	01:27:10- 01:27:12
FERMI In truth, the A-bomb might not cause as much damage as the Tokyo bombings.	A-bomba gali neprisidaryti tiek žalos, kiek Tokijo bombardavimas.	01:35:44- 01:35:47
FERMI In truth, the A-bomb might not cause as much damage as the Tokyo bombings.	A-bomba gali neprisidaryti tiek žalos, kiek Tokijo bombardavimas.	01:35:44- 01:35:47
ROBB After the Russian A-bomb test did Dr Lawrence come to see you	Ar po rusų atominės bombos bandymo/ daktaras Lorencas atėjo pas jus	02:22:24- 02:22:27

Source: created by the author

The same situation is with the translation of the simple term “A-bomb” (atomic bomb). All instances of this term translation are presented in the previous table. In 3 out of 4 instances, the term is rendered as “A-bomba”. Yet, in the final example, communicative translation is used instead to clarify that this is, in fact, an atomic weapon. Thus, in order to avoid misunderstandings, the selection of only one of the two translations would help.

Besides the most frequently applied literal translation methods, it is worth taking a glance at less-restricted translation methods, namely adaptation, and investigating the 7 cases in which it is used in order to test the quality of the translation in a feature film that requires strict maintenance of the information provided in the source material. One such example is given in Table 12.

Table 19. *Adapted translation*

Source text	Lithuanian subtitle	Time code
RABI A Yank lecturing on new physics? This I have to hear...	Janki, dėstai naująją fiziką? / Tuomet turiu išgirst.	00:13:01- 00:13:03

Source: created by the author

Oppenheimer, in the scene provided, is giving a lecture in the Netherlands about physics. Isidor Rabi, an American physicist and his future colleague, comes to listen to it. He has yet to meet Oppenheimer and remarks that he needs to hear a lecture on new physics delivered by “Yank”. He sits among other students when delivering the line. However, in the Lithuanian translation, it may seem that he is talking directly to Oppenheimer, as the noun “Yank” (Lt. *Jankis*) is adapted to a form of address (Janki), although they are separated by a great space in the room. For this reason, the translation sounds adapted and, considering the visual material (the fact that they are in different parts of the room), the viewer may not understand why a form of address is used when Rabi merely delivers a statement when talking to another student.

An additional aspect that is worth mentioning is a few spelling mistakes detected during the analysis, which disrupt the fluency of reading and draw the viewer away from the main plot. An example of this is provided below.

Table 20. *Subtitle with a spelling error*

Source text	Lithuanian subtitle	Time code
OPPENHEIMER No. It's not an academic thing whether you can make a Hydrogen bomb.	Ne. Galimybė sukonstruoti/ vandenilinę bombą - ne akademinis,	02:36:21- 02:36:23

Source: created by the author

The translation of hydrogen bomb in the given subtitle is misspelt – instead of *ą* (a and an ogonek), *a* is used. Due to this, the grammatical case is switched from accusative case to nominative case. Therefore, there is a disruption in the flow of the sentence. For this reason, it would be proper to change the translation to an accusative case and forge a link with other words in the sentence for clarified reading.

One of the focal points of the paper revolves around the importance of the term translation in rendering context-relevant information or, as mentioned in the theoretical material, media effect. As was already mentioned, audible and visual information may give cues to the viewer on what is happening. As a result, in some cases, it is possible to understand the situation presented in the film

based on shots, music, etc. Yet, these hints may not always convey all the necessary information required to understand the context. Hence, the terminology is also relevant in rendering various aspects related to the plot.

Oppenheimer, as a film, not only portrays the bomb creation process but also raises various issues related to its dangers by mirroring the views of different characters. It also questions the necessity of the Hiroshima and Nagasaki atomic bombings, emotional guilt and the weight on the shoulders of the bomb creators. Viewers are warned about the potentially harmful effects further development or usage of atomic bombs may bring. Implementation of this is carried out not only by expressing words but also by combining them with the unique editing in the film, when the words of the characters, in some instances, are followed by vivid visuals. One of the examples of this comes when a question arises about the potential ignition of the atmosphere caused by the detonation of the atomic bomb.

Table 21. *Emotional weight fuelled by a phrase*

Source text	Lithuanian subtitle	Time code
OPPENHEIMER When we detonate an atomic device ,	Kai susprogdinsim branduolinį užtaisą ,	00:52:41- 00:52:43
OPPENHEIMER we might start a chain reaction that	galim pradėt grandininę reakciją , kuri...	00:52:44- 00:52:46
OPPENHEIMER destroys the world.	sunaikins pasaulį.	00:52:47- 00:52:49

Source: created by the author

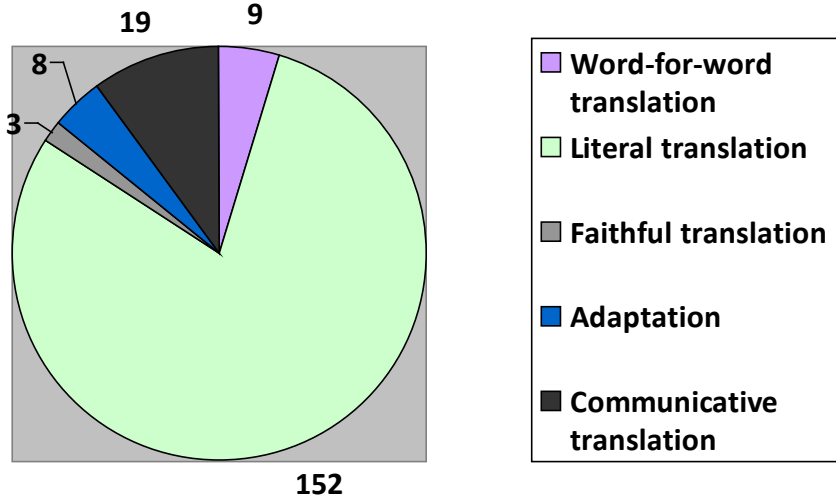
In the given example, Oppenheimer comes to Albert Einstein to discuss the mentioned issue. Oppenheimer asks him to check the calculations and evaluate the situation. He mentions that after the detonation of an atomic device, the world may be destroyed. The utterance of the line is complemented by tense music and visual material, in which the Earth is destroyed by the ignition of the atmosphere. Thus, it is very important to translate such a case with extreme caution to convey the main idea of the scene. In this particular example, the overall job is good, as all necessary points are touched. Only the first subtitle, “Kai susprogdinsim branduolinį užtaisą” (En. *When we will detonate atomic device*) could be slightly adapted, because in the given situation it may seem that the scientists have already constructed an atomical device but are held back by the possibility of world destruction. In truth, the people at Los Alamos are in the development phase of the bomb; hence, a phrase such as “Susprogdinę branduolinį užtaisą” could show that the device is still in the phase of construction and not yet prepared.

All in all, remembering the assumption established previously, the translation is, in multiple cases, literal, however, the translations in certain cases use collocations that do not correlate with other linguistic units or may form ambiguous meanings. Different translation instances of the same term are also detected. This creates discrepancy and may give a false impression that the characters speak about two different things. Considering that terms are not interchangeable and have certain equivalents in the target languages, the selection of a single term would help to avoid this. Additionally, it is required to be cautious when selecting the translations of the terms in order to find an equivalent that is widely accepted among scholars and match the translations of a single term in all cases. Thus, the assumption is true only partly.

3.4. Translation Peculiarities of Terms in *Tesla*

With the translation aspects of the film *Oppenheimer* being presented, the focus is shifted towards the second feature film, *Tesla*. The situation, regarding term translation in this audiovisual material is similar to *Oppenheimer*. The statistics of the most frequently applied translation methods are presented in Chart 4.

Chart 4. Translation methods in *Tesla*



Source: created by the author

Just like in *Oppenheimer*, literal translation methods, with 152 cases in total, constitute the greatest share of total used translation methods. All the other methods are used far less. However, it is worth noting that some of the terms, detected in *Tesla* were translated not by finding the direct equivalent in the target language, but rather the primary meaning of the word. Such an example is provided below.

Table 22. *Translation of direct current*

Source text	Lithuanian subtitle	Time code
PROFESSOR to the best direct current motor .	geriausiam tiesioginės srovės motorui .	00:17:02- 00:17:02
EDISON Direct current is like a river flowing peacefully to the sea.	Tiesioginė srovė yra tarsi upė, kuri ramiai teka į jūrą.	00:26:58- 00:27:00
WESTINGHOUSE ...in the name of science he zaps the dog with 14 hundred volts of direct current .	Moksliniais tikslais nukrato šunį/ 1400 voltų tiesiogine srove .	00:22:57- 00:22:59

Source: created by the author

In Table 22, some examples of the term “direct current” are established. In total, it is uttered 6 times. Direct current, in the Lithuanian language, possesses an equivalent named “nuolatinė srovė”, as this conveys the main operational functions of the current. However, in these particular situations, as well as through the entire film, this linguistic unit is rendered as “tiesioginė srovė”. It means that not an equivalent established in the Lithuanian language was selected but rather each word was translated separately, e.g. the word “direct” has a primary meaning of “tiesioginis/tiesioginė” in Lithuanian vocabulary. Hence, an equivalent established by the scholars and well-known in the target language is not employed. This may raise some issues for the viewer: if he/she is familiar with the term “nuolatinė srovė” this may create amusement or confusion for the viewer, as “tiesioginė srovė” is not used in textbooks when describing direct current. Also, if the viewer is not aware of the term, such a situation may formulate the incorrect form of the term in his/her mind.

Table 23. *Case of alternating current*

Source text	Lithuanian subtitle	Time code
EDISON Alternating current is a waste of time.	Kintamoji srovė yra laiko švaistymas.	00:07:42- 00:07:44

WESTINGHOUSE ... alternating current , of course...	Kintamoji srovė , suprantama	00:23:43- 00:23:44
EDISON Alternating current is the same...	O kintamoji srovė atsirastų tada,	00:26:45- 00:26:46
TESLA in alternating current , but of course you know...	kintama srove , bet jūs tai žinot.	00:12:06- 00:12:07
NARRATOR ... alternating current is beautiful and safe.	kintama srovė yra graži... ir saugi.	00:43:14- 00:43:16

Source: created by the author

The other type of main power, alternating current also appears in the film. It is mentioned 13 times. In most cases, it is translated by its scientific equivalent established in the Lithuanian language, which is “kintamoji srovė”. The first word of the term uses the pronominal form (kintamoji). However, there are also situations when this term is translated without pronominal form (kintama). This creates another discrepancy, as the translation of the term lacks continuity. Yet, in this case, it is still possible to understand which term characters have in mind.

Just as in *Oppenheimer*, subtitles with a spelling error are also detected. An example of this is provided in Table 24.

Table 24. Example with a spelling error

Source text	Lithuanian subtitle	Time code
WESTINGHOUSE Your polyphase system .	Jūsų daugiafazė sistema .	00:48:59- 00:48:59

Source: created by the author

The term “polyphase system” is uttered in the source language. It is translated literally by selecting the equivalent “daugiafazė sistema”. However, in the translated text, grammatical cases do not match: “daugiafazė” is a nominative case, whereas “sistemą” is an accusative case. Hence, the adjective does not match the noun. Since the initial intention here is to use an accusative case, “daugiafazė” should be switched to “daugiafazę” for greater clarity.

Table 25. Example of a simple term translation

Source text	Lithuanian subtitle	Time code
MORGAN It was as though there was something in the current	Atrodė, kad kažkas buvo srovėje ,	00:19:18- 00:19:20

MORGAN ...and the light in the air .	šviesoje ir ore.	00:19:20- 00:19:21
---	------------------	-----------------------

Source: created by the author

Besides the observations established on more literal translation methods, there are some aspects related to the adapted translations. For example, in Table 25 such translation is presented in the second subtitle. The original utterance states there is something in the current and the light in the air. There are two subjects in the given sentence, as the light is connected to the air. In the translation, there are three subjects: current, light and air. The part about the light shining in the air is adapted into conjunction “ir” (En. *and*). Thus, the original meaning is slightly different.

Considering all the points mentioned in the chapter, some of the observations detected in *Oppenheimer* may also be applied here. Some of the terms lack even translation (kintamoji and kintama srovė), grammatical errors may also be seen. Additionally, cases with the usage of primary meaning for the term translation instead of scientific equivalent also create potential risks. A wrong variation of the term may formulate an incorrect approach to the viewer if the fact that subtitles help to educate is remembered once again. Instead of a term, well-known to scholars, incorrect phrasing settles in his/her mind, which may be further spread to others. Hence, it would be unreliable to use such a term as a basis in discussions or works.

Covering of translation aspects related to the feature films is presented without including various nuances of the subtitling itself. Hence, the next chapter covers subtitling and text reduction as certain decisions related to the translation may arise due to the various requirements of subtitling.

4. QUALITY OF THE SUBTITLING OF THE SELECTED AUDIOVISUAL MATERIAL

As it was already established in the previous chapter, 413 subtitles with terms were detected in *Oppenheimer*. The principles of the value of the translation had already been set out. Yet, the requirements of subtitling may also have a role in shaping the translation as these processes are intertwined together: if every possible word is translated, some aspects of subtitling may be violated but if the translation is quite narrow, certain contextual details may be lost. Hence, adjustments are necessary in order to meet the maximum number of characters and make segmentation proper to prepare such subtitles that are easy to read for the viewers.

At first, the aspects of maximum number of lines, segmentation and duration are overviewed. In the following subchapter, peculiarities of text reduction and condensation are established.

4.1. Peculiarities of the Detected Subtitles in the film *Oppenheimer*

With the concrete requirements of *Telia Play* for subtitling in terms of the maximum number of characters being unclear, the paper relies on the insights established by scholars (42 in one line). None of the subtitles containing terms exceeded the maximum number of characters in one line. Therefore, this concrete aspect, when subtitling the film, is not violated. However, there are some occasions, when the segmentation of the subtitles could be reordered. In total, 18 such instances are detected. It is worth examining which segmentation rules are violated and how this affects the perception of the terms and their overall performance.

Table 26. Case of divided noun phrase

Source text	Lithuanian subtitle	Time code
OPPENHEIMER Our fast neutron research took six months.	Mūsų greituju neutronų / tyrimas truko šešis mėnesius.	00:43:21- 00:43:24

Source: created by the author

In the given example, the noun phrase “Mūsų greituju neutronų tyrimas” (En. *Our fast neutron research*) is distributed into separate lines. The noun “tyrimas” (En. *research*) is transferred into the second line. In this way, the pronoun, “Mūsų” (En. *our*), and the adjectives “greituju neutronų” (En. *fast neutron*) are separated from it. The main issue created by this occasion is the disruption of fluent reading, as such occasions distract the viewer for a slightly longer period of

time, as the first line appears as if it is missing a slight bit of information or a satisfying ending. To avoid this, it would be recommended to maintain the phrase in the same line in order for it to remain intact and complete. In this way, the maximum number of characters would not be violated (30 in the first line) and the phrase would receive a sufficient conclusion.

Table 27. *Subsequent example of the noun phrase*

Source text	Lithuanian subtitle	Time code
ROBB I thought Berkeley had the leading theoretical physics department	Maniau, Berklio fizikos / fakultetas buvo pirmaujantis.	00:03:00-00:03:02

Source: created by the author

Among the 18 subtitles in which subtitling could be rearranged, noun phrase division resurfaced several times. In the given example, Berkeley’s theoretical physics department (*Berklio fizikos fakultetas* in Lithuanian subtitle) is also divided, with the noun “fakultetas” being separated from the first line. Just as in the previous case, such distribution slows the viewer’s reading pace; hence, as the boundary of the maximum number of characters would not be surpassed on this occasion either (34 in the first line if “fakultetas” is counted), it would be advisable to keep it in the same line as well.

Table 28. *Subtitle demonstrated for insufficient period of time*

Source text	Lithuanian subtitle	Time code
OPPENHEIMER Met Lab in Chicago under Szilard,	Metalurgijos laboratorija / Čikagoj su Silardu.	00:44:59-00:45:00

Source: created by the author

In terms of suitable demonstration time, subtitles that would appear only for a brief period of time are a rare example – 2 cases are discovered. One of them is demonstrated in Table 20. The subtitle consisting of 2 lines and 25, as well as 18 characters in each line respectively, is maintained on the screen for less than a second. Such a period of time is too narrow in order to read all of it, and it is quickly superseded by another subtitle. Considering that not much could be removed from this subtitle by applying text reduction, it would be suggestible that the following subtitle would be made slightly shorter, and the demonstration time of this subtitle would be increased. In this way, the viewer could read both subtitles without frustration about missed information.

Overall, text segmentation that could be adjustable is the most frequent deviation from requirements as the maximum number of characters in one line is not exceeded in any subtitle and only 2 cases, in which subtitles are demonstrated only for a narrow period of time, exist.

Bearing in mind these detected aspects, the paper moves forward towards the second feature film to identify if similar nuances could be attributed to this feature film as well.

4.2. Subtitled Text in the Film *Tesla*

Appendix 2 shows that in some cases, the subtitled text does not appear during the utterance of the source text. Yet, these cases are not taken into account, as they may be related to technical difficulties; thus, it would not be appropriate to examine them. When it comes to the subtitles suitable for the examination, the first noteworthy aspect is the fact that there are several cases when the maximum number of characters is exceeded. One of its examples is given in Table 29.

Table 29. *Violation of the maximum number of characters*

Source text	Lithuanian subtitle	Time code
TESLA ...each pulsation a wavelength of 6,600 feet...	Kiekviena pulsacija yra dviejų kilometrų ilgio.	01:07:24- 01:07:26

Source: created by the author

This particular subtitle consists of one line, which has 47 characters. Relying on the maximum number of characters in one line, established by Díaz-Cintas and Remael, which is 42, it is evident that this number is quite high. The line covers a great portion of the screen. Such cases create risks due to the fact that subtitles may cover the visual sequences. Hence, it would be better to split the sentence into two, e.g. “Kiekviena pulsacija/ yra dviejų kilometrų ilgio.” In this way, the viewer is not required to read one long line but instead, it is possible to read two shorter ones.

When searching for connections for similar cases as with the film *Oppenheimer*, some issues connected to text segmentation are also noticed, although they are not frequent. Just as with the other feature film, the noun phrase is divided.

Table 30. *Noun phrase division example*

Source text	Lithuanian subtitle	Time code
PROFESSOR The importance of maintaining the intensity	Svarbiausia, išlaikant poliarinės/ konstantos aktyvumą yra tai,	00:20:26- 00:20:28

of the all constant		
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Source: created by the author

Here, “poliarinès konstantos aktyvumą” is distributed into two lines, with the adjective “poliarinès” being maintained in the first line. Considering that the maximum number of characters would not be exceeded (38 in the second line counting “poliarinès”), it would be suggestible to transfer the adjective into the second line. However, the translation here is also worth attention because the original idea presents “all constant”, but there is no word that would suggest the word “poliarinè”. The term, “poliarinè konstanta” does not exist at all. The adjective “poliarinè” (En. *polar*) is used to describe various phenomena, such as polar nights. Therefore, the reason for such phrasing in the subtitle is unknown.

In the case of *Oppenheimer*, the subtitles were demonstrated for a narrow period of time in only two cases. In *Tesla*, there are more such events when they are displayed for a very short time. Sometimes it does not even reach one second. Therefore, it is not only hard to comprehend what is happening on the screen but also to complete reading a single subtitle. Various examples of this are presented in Table 31.

Table 31. Subtitles maintained for a very short time period

Source text	Lithuanian subtitle	Time code
TESLA The magnetic field redirects the current .	Magnetinis laukas nukreipia srovę.	00:11:48- 00:11:49
TESLA The currents are out of phase .	Srovės nesinchronizuotos.	00:14:58- 00:14:58
PROFESSOR Its efficiency without question is equal	Jo efektyvumas neabejotinai prilygsta	00:17:01- 00:17:01
PROFESSOR to the best direct current motor .	geriausiam tiesioginės srovės motorui .	00:17:02- 00:17:02
PROFESSOR You're not a member of the AIEE .	Jūs nepriklausote AIEE ...	00:17:17- 00:17:17

Source: created by the author

The five examples illustrate how short some of the subtitles are maintained. *Telia* platform does not give information about the milliseconds, but looking at the time codes it is visible that some of the subtitles appear and end at the very same second. Watching the content in real-time, several subtitles disappear nearly the same second they appear; therefore, the viewing experience is

quite complicated because it is difficult to process the idea presented in the subtitles. However, taking into account the technical problems that are already established, it is possible that such narrow presentation time is also influenced by this factor. Yet, either way, when viewing the film on television, it is difficult to comprehend some subtitles due to the brief presentation time.

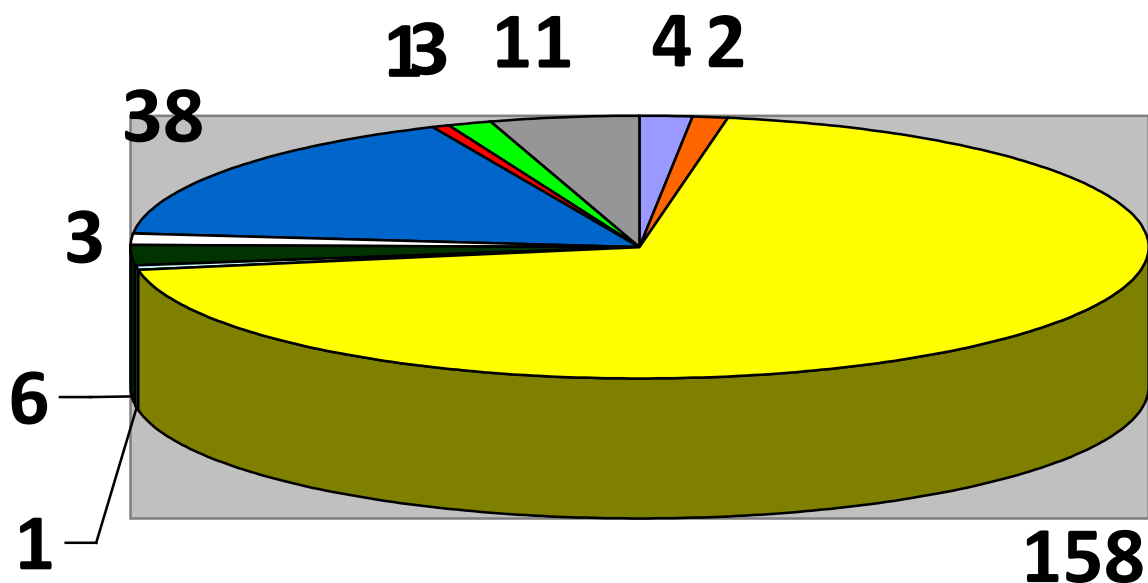
Consequently, the aspects related to subtitling are similar to the ones detected in the film *Oppenheimer*, as noun phrases are divided. Also, there are cases of subtitles that have short presentation time. Besides, some subtitles detected in the film *Tesla* exceed the maximum number of characters in one line. Thus, it is possible to draw a conclusion that some of the aspects are recurrent in both films.

Bearing in mind the established results, the application of text reduction may have played a role in some of the decisions made during the subtitling and translation processes. As a result, the paper shifts focus to the final aspect established in the paper.

4.3. Reduced Subtitled Text in the film *Oppenheimer*

Text reduction, once again, is employed to remove redundant linguistic units. This process was employed in the feature film *Oppenheimer*. The statistics on which strategies are used are established in Chart 5.

Chart 5. *Text reduction in the film Oppenheimer*



- Simplification of verbal periphrases
- Generalisation of enumerations
- Usage of a shorter near-synonym expression or equivalent
- Usage of simple rather than compound tenses
- Change of negations/questions into affirmative sentences/assertions
- Manipulation of theme and rheme
- Division of long/compound sentences
- Usage of pronouns
- Merging of two or more phrases/sentences into one
- Omission

Source: created by the author

As evident in the chart, the most applied text reduction strategy is the usage of a shorter near-synonym expression or equivalent with 158 cases. Other strategies were used less, as the second most used strategy is the division of long/compound sentences with 38 examples. None of the strategies were used in 182 subtitles; therefore, all information of the source material is maintained in the translated version. But acknowledging all the instances, in which text reduction is employed, it is worth taking a closer look and examining what particularly was substituted or replaced.

Table 32. *Subtitle with a shorter near-synonym expression or equivalent*

Source text	Lithuanian subtitle	Time code
RABI You learned Dutch in six weeks to give a lecture on quantum mechanics ?	Per 6 savaites tiek išmokot, kad galit/ vest paskaitą apie kvantinę mechaniką ?	00:13:54- 00:13:58

Source: created by the author

In the given situation, Oppenheimer meets Isidor Rabi for the first time on a train. The two discuss the lecture Oppenheimer gave in the Dutch language. Rabi is amused by the fact that Oppenheimer learned Dutch in six weeks just to give a lecture on quantum mechanics. In the given subtitle, the part about the Dutch language is removed. The back translation of the Lithuanian subtitle would be “You learned so much in 6 weeks that you can give a lecture on quantum mechanics?”. Initially, it may seem that Oppenheimer learned not Dutch but Quantum Mechanics in six weeks. However, the real decision why it was decided to remove the term in the target language is because it was already mentioned in previous subtitles, hence the viewer understands what is truly meant by this subtitle. However, it is also notable that the verb phrase is separated in this subtitle (galit/ vest). Therefore, the lines can be rearranged. Since transferring the verb “vest” into the first line would lead to the violation of the maximum characters per line, additional text reduction is required, e.g. division of long/compound sentences.

Table 33. *Another example of a shorter near-synonym expression or equivalent*

Source text	Lithuanian subtitle	Time code
OPPENHEIMER We stand down, make the bomb safe, it's weeks before we get back here.	Jei nusileisim, apsaugosim bombą ,/ tai negrįšim čia savaitēm.	01:45:00- 01:45:03

Source: created by the author

Table 33 presents another example related to a shorter near-synonym expression or equivalent. In fact, two text reduction strategies are employed here. Besides shorter near-synonym expressions, change of negations or questions into affirmative sentences or assertions or vice-versa is also found, as the affirmative part of the sentence is changed to a negative: “weeks before we get back here” to “negrįšim čia savaitēm”. However, this expression in this particular situation is translated by taking the primary meaning of words instead of translating the main idea. Considerations about the postponement of the Trinity test are made due to weather conditions, as well as other reasons. However, Oppenheimer refuses to stand down, commenting that it will take weeks for them to reach the same point if the test is postponed, especially as the Potsdam

Conference is going to take place soon, as Leslie Groves comments. In the Lithuanian language, the expression is translated literally, as it is rendered as “negrįšim čia savaitēm”. It sounds as if they will abandon that particular place (Los Alamos) and it will take a lot of time for them to go back. Instead, it would be suitable to reconsider the phrasing for this line into, for example, “užtruksim dar kelias savaites” (En. *It will take us a few more weeks*). In this way, the expression expresses the initial meaning of the utterance in a more accurate way. But it is worth stressing that both in these case and other subtitles, where this text reduction strategy is employed, terms are not removed.

Although other text reduction strategies were used far less, it is also worth analysing the situations in which they were used. In Table 34, a case of division of long/compound sentences is given.

Table 34. *Division of long/compound sentences example*

Source text	Lithuanian subtitle	Time code
OPPENHEIMER Einstein published his Theory of Relativity more than forty years ago,	Reliatyvumo teoriją Einšteinas/ paskelbė prieš daugiau nei 40 metų.	00:10:25- 00:10:28
OPPENHEIMER but never embraced the quantum world it revealed.	Bet taip ir neįsitraukė/ į atskleistą kvantų pasaulį.	00:10:29- 00:10:31

Source: created by the author

The sentence, seen in the original text, is quite long and complex. Hence, a decision is made to split it into two subtitles, because it would not be possible to render it in a single one. Another possible situation here could be placing a comma instead of a dot, but in such a case the viewer must keep the information presented in the first subtitle in mind; therefore, additional stress is put on him/her. Hence, the decision to write a full stop in such a situation is good. No terms are deleted here either.

Another notable fact is that no text reduction strategy was employed in 182 subtitles in which terms are detected. It means that all of the information there was maintained, and no terms were removed either. This is achieved by spotting, as the subtitles, in multiple cases, are demonstrated for such a time period that helps to distribute text in a way that text reduction is not required. In other cases, text reduction is used to remove those linguistic units that do not play a pivotal role in the text (e.g. removing auxiliaries, selecting shorter equivalents for some words, etc.) but at the same time maintain terms. Also, the text is distributed in such a way that long sentences are divided into brief phrases and, once again, a sufficient amount of time is given. Hence the

subtitles are dynamic and (in most cases) the viewer is able to read everything that is given on the screen.

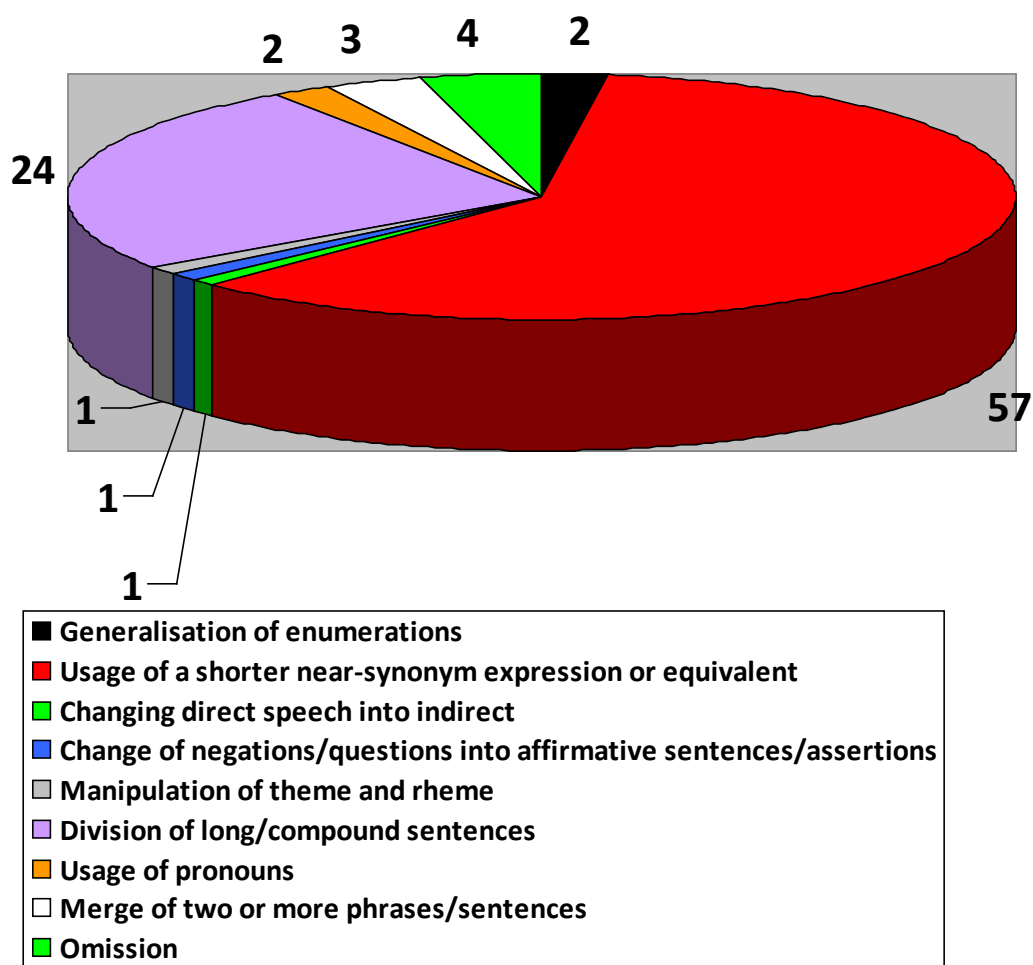
All in all, the utilisation of text reduction does not cover the removal of terms. Instead, redundant linguistic units are eliminated. Long utterances are divided into shorter sentences in order to relieve the burden of the viewer in trying to remember the beginning of a complex sentence. However, the usage of some shorter near-synonym expressions slightly alters the meaning in some cases, which may create additional ambiguity.

Yet, what is detected in one feature film may not be applicable to the other one, as other problems may be established or vice-versa – some patterns or similarities between the two films may be noticed. Thus, the last subchapter of the paper is devoted to the analysis of text reduction in the feature film *Tesla* to identify common points (if any are present) or differences that stand out.

4.4. Condensation of Text in the Feature Film *Tesla*

As the running time of the film *Tesla* is far shorter and there are fewer subtitles, text reduction was employed less, for a total of 92 times. No strategies were used on 134 occasions. However, a great variety of strategies is detected once again, and the division of it is presented in Chart 6.

Chart 6. Text reduction in Tesla



Source: created by the author

Just as with the case of *Oppenheimer*, the text reduction strategy used the most is the usage of shorter near-synonym expression or equivalent with 57 cases. As more than half of cases fall under this category, some concrete cases are analysed to examine what exactly was substituted.

Table 35. Shorter near-synonym expression or equivalent in subtitle

Source text	Lithuanian subtitle	Time code
TESLA That motor will do the work of the	Tas variklis pasaulyje/ darys stebuklus.	00:16:11- 00:16:13

world.		
---------------	--	--

Source: created by the author

The given example reflects a situation when a shorter expression is employed to convey the original utterance. The source text states that the motor, when it will be created, will do the work of the world. The literal translation of this sentence would be “Tas variklis atliks visus pasaulio darbus”. However, the back-translation of the subtitle states “That motor will do the wonders in the world”. Therefore, it is not entirely exactly the same expression, albeit a shorter one. The original idea is somewhat altered, but it is still possible to understand that the motor will change the way people live. Yet, a good idea would be to remain closer to the original expression, as it helps to send the message in a bit more clarified way.

Table 36. *The second example of a shorter near-synonym expression or equivalent*

Source text	Lithuanian subtitle	Time code
WOMAN Hair is not conductive .	Plaukai nepraleidžia elektros .	00:38:54- 00:38:56

Source: created by the author

Another example portrays a situation in which a synonymous expression is employed to render the original meaning. The given case is a successful one in rendering the original message; however, attention may be drawn to the fact that a longer phrasing is used to convey it. A literal translation of the source text is “Plaukai nėra laidūs”. The expression “Plaukai nepraleidžia elektros” (en. *Hair does not conduct electricity*) has the same meaning, however, it is slightly shorter in terms of characters in one subtitle. Writing a shorter expression allows the viewer to read the subtitle faster, then he/she may switch the attention back to the action sequence. Therefore, it would be convenient to write a shorter expression, especially considering that it possesses an identical meaning.

Table 37. *Removal of swear language*

Source text	Lithuanian subtitle	Time code
RESIDENT You did that. The whole God damn generator is on fire .	Tai tavo kaltė. Generatorius dega .	01:07:03- 00:07:05
RESIDENT You blacked out the whole God damn town,	Per tave visas miestas be elektros .	01:07:10- 01:07:11

Source: created by the author

Another notable aspect when it comes to text reduction is that a decision is made to remove some of the swear words appearing in the source text with the employment of omission strategy. In both given examples, the phrasing “God damn” is not found in any form in the Lithuanian subtitles. The result of this is that the anger, expressed by one of the city residents, who blames Tesla for the blackout, is reduced in the target language. Therefore, it would be recommended to maintain such swear words and adapt them to the target culture in order to render a concise message, especially taking into account visible and audible material. In it, the frustration of the character is visible; therefore, the maintenance of the original expressions would help visual, audible and translated material correspond.

Other strategies that were applied were used to omit less important linguistic units such as “eliminated the need for” and replacing them with “nebereikia” (En. *no longer need*) (Table 38), dividing long sentences and distributing them into shorter ones, etc.

Table 38. *An example of a simplified expression*

Source text	Lithuanian subtitle	Time code
BROWN So you've eliminated the need for the commutator	Vadinasi, dabar nebereikia keitiklių ,	00:11:40- 00:11:42

Source: created by the author

The analysis of text reduction in *Tesla* concludes the empirical part. Considering both films that are analysed, both similarities and differences are observed. Each film frequently employs the usage of shorter expressions and rarely relies on more free translation methods. Yet, both have their differences. Text reduction in *Tesla* in some cases is used to remove swear language, which softens the situation, but notable removal of terms which would lead to a loss of contextual details is not detected. Thus, terms are not removed via the utilisation of text reduction.

In conclusion, terms detected in both feature films carry significant roles as they send certain messages (development of the atomic bomb and its dangers; usage of AC/DC), yet some are translated by primary meaning instead of direct equivalent. There are also instances when the translation is uneven (the same term is translated in two different ways). This may create ambiguous situations or even settle incorrect equivalents in the viewer’s mind. Thus, the translation of terms is just as important as the terms themselves, as it assists in rendering the ideas of the material. However, the terms are not removed by text reduction, as the decision is made to delete less relevant linguistic units.

CONCLUSIONS

1. In both analysed films, physical terms constitute the largest portion of all terms (348 and 184 respectively). The reason behind this is quite simple, as both films mostly revolve around the sciences of physics (the creation of the nuclear bomb in *Oppenheimer* and electricity in *Tesla*). Other types of terms are mentioned fewer times but all of them are strongly tied to the entire context of the film (e.g. medical terms describe various injuries or conditions caused by nuclear bombing or electricity, define important substances, etc.). All three types of terms are also detected in both of the films (simple terms, complex terms, and terminological phrases).

2. Although the most frequent translation method in both films is literal translation, the translation of terms in both films at some points can create ambiguity. The reason behind this is the fact that the words constituting terms are translated separately and by taking the primary meaning rather than employing their direct equivalent in the target language. Due to this, viewers who are familiar with the equivalents established in the scientific language may be confused by the decision to render the term in such a way or the entire point may be missed. Spelling errors also appear from time to time. In some cases, collocations that do not match other words are detected, causing some more ambiguity in the translation. The media effect is also shaped by the usage of terms in certain situations. More free translation methods (e.g. adaptation, free translation) are used less but in their employment in some cases does not entirely match the original messages.

3. When taking the requirements of subtitling, in *Oppenheimer*, some noun phrases are separated, hence text segmentation could be readjusted for greater clarity and fluency of text reading; however, there are no subtitles in which the maximum amount of characters would be exceeded and a couple of cases with subtitles played too short. Yet, the subtitles are displayed dynamically, and the viewer is able to follow the plot quite well. Some of these points are noticeable in *Tesla* as well. Even a greater portion of the subtitles appear on the screen for only a limited period of time; therefore, it is difficult to manage to read everything in the subtitles. Noun phrases are also divided. Besides, some lines exceed the maximum number of characters in one line. Thus, the subtitles cover a large portion of the screen.

4. In both films, the usage of shorter near-synonym expressions is the text reduction strategy that is used the most; however, in some cases, the meaning is changed in a way that does not entirely render the original ideas and, although it may be still possible to comprehend them, clarity and fluency of the text is disrupted in certain cases. Other reduction strategies are used less frequently and a lot of subtitles did not employ text reduction at all (182 and 134 respectively). It is notable that offensive language was removed in the film *Tesla*, reducing the strength of some

expressions. Yet, text reduction in both films is used to remove some redundant linguistic units, instead of terms. Thus, the importance carried by the terms is preserved.

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SUMMARY

Terms are an inseparable part of scientific language. Terms are found in various textbooks, works of scholars, literary sources, or even audiovisual material, such as documentaries or feature films. In audiovisual content, such linguistic units help to explain various context-related information, raise various issues, educate, etc.

In this day and age, with the world becoming more global, audiovisual products are translated into foreign languages, using the process called audiovisual translation, an umbrella term, covering smaller modes, such as voice-over, dubbing, or subtitling. Each of these modes has certain limitations. For example, certain requirements (maximum number of lines, maximum number of characters in one line) are applied for subtitling. This is done in order not to burden the viewer with reading big portions of information in a limited time and also not to cover too much of the screen. Hence, not all vocal information may be placed into the subtitles. Thus, when translating dialogues with many terms, some issues may arise. If all terms are translated with other portions of information, the spatial requirements may potentially be violated. On the other hand, if some details or terms are left untranslated, contextual data may be lost, even though the spatial requirements are met. Therefore, the translator (or the subtitler) faces a dilemma, how to render the information in such a way that neither contextual information would be lost, nor the requirements of subtitling would be violated.

For the reasons of valid research, a theoretical framework was established. At first, the concept and grouping of terms are introduced, followed by the importance of terms in audiovisual material and their role in shaping the opinion of the audience and laying the foundation for the challenges, related to term translation. Afterwards, the next step is taken towards introducing the mode of subtitling, as well as concrete spatial and temporal requirements of it, as well as text segmentation. Finally, a process, used to condense and reformulate textual information in subtitles, called text reduction, is brought forward. Two feature films, *Oppenheimer* (2023, directed by Christopher Nolan) and *Tesla* (2020, directed by Michael Almereyda) are selected for the analysis.

In these feature films, 413 and 226 subtitles with terms respectively are detected. Physics terms are the most frequent, due to the fact that the films mostly revolve around branches of this science. The results of the analysis display that the translation of terms, in some cases, is carried out by selecting the primary meaning of the words, rather than the equivalent established in the target language. Besides, the translation of some subtitles resulted in ambiguity. In the application of text reduction, the most frequently applied strategy is the usage of a shorter near-synonym expression or equivalent.

SANTRAUKA

Terminai – neatsiejama mokslinės kalbos dalis. Jie neretai sutinkami vadovėliuose, moksliniuose darbuose, literatūriniuose šaltiniuose ar net audiovizualiniuose kūrinuose, pavyzdžiui dokumentiniuose arba vaidybiniuose filmuose. Audiovizualiniame turinyje tokie kalbiniai vienetai pasitelkiami paaiškinant kontekstui reikšmingą informaciją, atkreipiant dėmesį į įvairias problemas, edukuojant ir pan.

Šiais laikais, kai pasaulis darosi vis labiau globalus, audiovizualiniai produktai yra verčiami į užsienio kalbas pasitelkiant procesą, vadinamą audiovizualiniu vertimu, kuris apima smulkesnes modas, tokias kaip užklotinis vertimas, dubliavimas ar subtitravimas. Kiekvienai iš šių modų taikomi tam tikri reikalavimai. Pavyzdžiui, subtitravime taikomi konkretūs reikalavimai (maksimalus eilučių skaičius, maksimalus ženklų skaičius). Jie reikalingi tam, kad žiūrovas nebūtų apkraunamas ir jam / jai nereikėtų skaityti didelio teksto kiekio per ribotą laiko tarpą bei siekiant neuždengti per didelės ekrano dalies. Taigi, ne visa žodinė informacija gali būti pateikiama subtitruose. Todėl verčiant dialogus, kuriuose daug terminų, gali kilti problemų. Jei visi terminai su kitais kalbiniais vienetais bus išverčiami, gali būti pažeisti subtitravimo reikalavimai susiję su erdve ir laiku. Kita vertus, jeigu kai kurie elementai arba terminai neišverčiami, galima prarasti kontekstui reikšmingą medžiagą, nors subtitravimo reikalavimai ir nebus pažeisti. Taigi, vertėjas (arba subtitruojas) susiduria su dilema, kaip perteikti informaciją tokiu būdu, kad nebūtų prarasta nei informacija, kuri reikalinga kontekstui, nei pažeisti subtitravimo reikalavimai.

Dėl siekio atlikti patikimą tyrimą, suformuota teorinė medžiaga. Pirmiausia pateikiama termino sąvoka bei suskirstymas, toliau pristatoma terminų svarba audiovizualiniuose kūrinuose, jų vaidmuo formuojant žiūrovų nuomonę bei iššūkiai susiję su terminų vertimu. Tada pereinama prie supažindinimo su subtitravimo moda bei konkrečių subtitravimo reikalavimų ir teksto segmentavimo. Galiausiai apibrėžiamas procesas, vadinamas teksto kompresija, kurio metu tekstinė informacija trumpinama ir perfrazuojama. Analizei pasitelkti du vaidybiniai filmai – „Openheimeris“ (2023 m., režisierius Christopher Nolan) bei „Tesla“ (2020, režisierius Michael Almereyda).

Šiuose filmuose aptikti atitinkamai 413 ir 226 subtitrai, kuriuose esama terminų. Filmų siužetas susijęs su fizikos šakomis, todėl šio mokslo terminų kūrinuose gausiausia. Tyrimo rezultatai atskleidė, jog kai kuriais atvejais terminai verčiami pagal pirminę žodžių, kurie sudaro terminus, reikšmę, o ne pasitelkiant atitikmenį, kuris įsitvirtinęs tikslinėje kalboje. Be to, kai kurių subtitrų vertimas sukūrė dviprasmybę. Tiriant teksto kompresiją, aptikta, jog dažniausiai naudojama trumpesnio sinonimo ar artimos reikšmės žodžio vartojimo strategija.

APPENDIX

Appendix 1. Terms detected in feature film *Oppenheimer*.

No.	Source Language	Lithuanian subtitle	Time Code	Text Reduction Strategy	Branch of Science	Translation Mode
1.	PROMETHEUS STOLE FIRE FROM THE GODS (O.S)	PROMETĖJAS PAVOGĖ UGNĮ IŠ DIEVŲ	00:00:58- 00:01:00	-	Chemistry	Literal translation
2.	1. FISSION (O.S.)	1. SKILIMAS	00:01:17- 00:01:19	-	Physics	Word-for-word translation
3.	2. FUSION (O.S.)	2. JUNGIMASIS	00:01:51- 00:01:53	-	Physics	Word-for-word translation
4.	OPPENHEIMER I wanted to learn the new physics .	Norėjau studijuoti naują fiziką .	00:02:56- 00:02:58	Shorter near- synonym expression or equivalent	Physics	Literal translation
5.	ROBB I thought Berkeley had the leading theoretical physics department	Maniau, Berklio fizikos / Fakultetas buvo pirmaujantis.	00:03:00- 00:03:02	Shorter near- synonym expression or equivalent	Physics	Literal translation
6.	OPPENHEIMER ...troubled by visions of a hidden universe ...	Regėjau slaptos visatos vizijas.	00:03:32- 00:03:34	Shorter near- synonym expression or equivalent	Astronomy	Literal translation
7.	OPPENHEIMER ...useless in the lab .	Nenaudingas laboratorijoj .	00:03:46- 00:03:48	Shorter near- synonym expression or equivalent	Physics	Literal translation
8.	POTASSIUM CYANIDE (O.S.)	KALIO CIANIDAS	00:04:33- 00:04:37	-	Chemistry	Word-for-word translation
9.	BOHR (V.O.) Quantum physics isn't	Kvantinė fizika - ne žingsnis į priekį,	00:04:56- 00:04:58	Shorter near- synonym	Physics	Literal translation

	a step forward...			expression or equivalent		
10.	BOHR It's a new way to understand reality .	o naujas būdas suprast tikrovę .	00:04:59-00:05:01	Shorter near-synonym expression or equivalent	Physics	Literal translation
11.	BOHR seeing a world inside our world ...	Matom pasaulį mūsų pasulyje .	00:05:07-00:05:09	Division of long/compound sentences	Astronomy	Literal translation
12.	BOHR a world of energy and paradox that not everyone can accept.	Energijos ir paradoksų pasauli ,/kurį ne kiekvienas gali pripažinti.	00:05:10-00:05:12	Shorter near-synonym expression or equivalent	Physics/astronomy	Literal translation
13.	BLACKETT It's his laboratory skills that leave a little to be desired.	Tik norėtusi,/kad geriau dirbtų laboratorijoj .	00:06:08-00:06:10	Shorter near-synonym expression or equivalent	Physics	Adaptation
14.	BOHR You don't enjoy the lab ?	Bet nepatinka laboratorijoj ?	00:06:28-00:06:29	Shorter near-synonym expression or equivalent	Physics	Literal translation
15.	BOHR Get out of Cambridge, with its beakers and potions .	Tai eikit iš Kembridžo/su jo menzūrom ir kolbom .	00:06:31-00:06:33	Shorter near-synonym expression or equivalent	Chemistry	Adaptation
16.	OPPENHEIMER Wormhole .	Kirmgrauža .	00:06:48-00:06:49	-	Physics	Word-for-word translation
17.	BOHR How's your mathematics ?	Kaip jums sekasi matematika ?	00:06:50-00:06:51	Shorter near-synonym expression or equivalent	Mathematics	Literal translation
18.	BLACKETT Not good enough for the physicist he wants	Nepakankamai kaip fizikui ,/koku jis nori būti.	00:06:52-00:06:54	Shorter near-synonym expression or	Physics	Literal translation

	to be.			equivalent		
19.	BOHR Algebra 's like sheet music.	Algebra - lyg užrašyta muzika.	00:06:56-00:06:58	Shorter near-synonym expression or equivalent	Mathematics	Communicative translation
20.	SENATOR MCGEE You were a commissioner of the Atomic Energy Commission ?	Buvot Atominės energijos/komisijos komisaras?	00:08:50-00:08:52	Shorter near-synonym expression or equivalent	Physics	Literal translation
21.	STRAUSS After the war he was world-renowned- the great man of physics ...	Po karo jis buvo pasaulinio garso fizikas ,	00:09:00-00:09:02	Shorter near-synonym expression or equivalent	Physics	Literal translation
22.	OPPENHEIMER You're a physicist by training, Mr Strauss?	Pone Strausai,/ pagal išsilavinimą jūs fizikas ?	00:09:46-00:09:47	Shorter near-synonym expression or equivalent	Physics	Literal translation
23.	STRAUSS No, I'm not trained in physics , or anything else. I'm a self-made man.	Ne, nebaigiau fizikos ar kitko./ Aš savamokslis.	00:09:51-00:09:53	Shorter near-synonym expression or equivalent	Physics	Literal translation
24.	STRAUSS I've always wondered why you didn't involve him in the Manhattan Project.	Visad svarsčiau, kodėl neįtraukėt/ jo į Manhatano projektą .	00:10:15-00:10:17	Shorter near-synonym expression or equivalent	Physics	Literal translation
25.	OPPENHEIMER Einstein published his Theory of Relativity more than forty years ago,	Reliatyvumo teoriją Einšteinas/ paskelbė prieš daugiau nei 40 metų.	00:10:25-00:10:28	Division of long/compound sentences	Physics	Literal translation
26.	OPPENHEIMER	Bet taip ir neįsitraukė/	00:10:29-	Division of	Physics	Literal translation

	but never embraced the quantum world it revealed.	į atskleistą kvantų pasaulį.	00:10:31	long/compound sentences		
27.	OPPENHEIMER You never thought of studying physics formally?	Niekad neketinot formaliai/ studijuot fizikos , pone Strausai?	00:10:36- 00:10:38	-	Physics	Literal translation
28.	STRAUSS As Chairman of the AEC ¹⁰ I have access to your security file.	Kaip AEK pirmininkas gavau/ įslaptintą jūsų bylą.	00:11:47- 00:11:49	Shorter near-synonym expression or equivalent	Physics	Literal translation
29.	OPPENHEIMER And I'll see you at the AEC meeting tomorrow.	Susitiksim rytoj AEK posėdyje.	00:11:57- 00:11:59	Shorter near-synonym expression or equivalent	Physics	Adaptation
30.	ROBB ...you seem to have met a wide range of other countries' physicists ...	Atrodo, susitikot/ su daugybe kitų šalių fizikų .	00:12:32- 00:12:34	Division of long/compound sentences	Physics	Literal translation
31.	RABI A Yank lecturing on new physics ? This I have to hear...	Janki, dėstai naująją fiziką ?/ Tuomet turiu išgirst.	00:13:01- 00:13:03	Shorter near-synonym expression or equivalent	Physics	Adaptation
32.	RABI I caught your lecture on molecules . Caught some of it.	Girdėjau jūsų paskaitą/ apie molekules . Dalį supratau.	00:13:45- 00:13:47	Shorter near-synonym expression or equivalent	Physics	Literal translation
33.	RABI You learned Dutch in six weeks to give a lecture on quantum	Per 6 savaites tiek išmokot, kad galit/ vest paskaitą apie kvantinę mechaniką ?	00:13:54- 00:13:58	Shorter near-synonym expression or equivalent	Physics	Adaptation

¹⁰ The Atomic Energy Commission.

	mechanics?					
34.	RABI Quantum physics isn't challenging enough?	Kvantinė fizika - nepakankamas iššūkis.	00:14:00-00:14:02	Change of negations or questions into affirmative sentences or assertions or vice-versa	Physics	Literal translation
35.	OPPENHEIMER Physicists?	Fizikai?	00:14:18-00:14:19	-	Physics	Word-for-word translation
36.	HEISENBERG One may get an assumption that behind the quantum world...	Kai kam susidarys įspūdis/ kad už kvantų pasaulio	00:14:46-00:14:48	Shorter near-synonym expression or equivalent	Physics	Literal translation
37.	HEISENBERG Oppenheimer, yes. I liked your paper on molecules.	Openheimeris, taip./ Patiko jūsų straipsnis apie molekules.	00:15:03-00:15:06	Shorter near-synonym expression or equivalent	Physics	Literal translation
38.	HEISENBERG Why? There's no one there taking quantum mechanics seriously.	Kodėl? Ten niekas rimtai/ nežiūri į kvantinę mechaniką.	00:15:14-00:15:17	Shorter near-synonym expression or equivalent	Physics	Literal translation
39.	RADIATION LABARATORY (O.S.)	RADIACIJOS LABORATORIJA	00:16:16-00:16:19	-	Physics	Word-for-word translation
40.	LAWRENCE I hear you want to start a school of quantum theory.	Girdėjau, norit steigt/ kvantinės teorijos mokyklą.	00:16:26-00:16:28	Shorter near-synonym expression or equivalent	Physics	Literal translation
41.	LAWRENCE We're building a machine to accelerate electrons.	Konstruojam mašiną, / kuri pagreitintų elektronus.	00:16:35-00:16:37	Shorter near-synonym expression or equivalent	Physics	Literal translation
42.	OPPENHEIMER	Ką žinot apie kvantinę mechaniką?	00:17:15-	Shorter near-	Physics	Literal translation

	What do you know about quantum mechanics ?		00:17:17	synonym expression or equivalent		
43.	OPPENHEIMER Is light made up of particles or waves ?	Šviesa sudaryta iš dalelių ar bangų ?	00:17:23-00:17:25	Shorter near-synonym expression or equivalent	Physics	Literal translation
44.	OPPENHEIMER Quantum mechanics says it's both. How can it be both?	Kvantinė mechanika teigia, kad iš abiejų. Ar taip gali būt?	00:17:26-00:17:28	Shorter near-synonym expression or equivalent	Physics	Literal translation
45.	OPPENHEIMER Consider a star ...	Įsivaizduokim žvaigždę .	00:17:48-00:17:49	Shorter near-synonym expression or equivalent	Astronomy	Literal translation
46.	OPPENHEIMER A star . A vast furnace burning in outer space.	Žvaigždė . Didžiulis žaizdras atviram kosmose.	00:17:50-00:17:53	Shorter near-synonym expression or equivalent	Astronomy/physics	Literal translation
47.	OPPENHEIMER Fire pushing outwards against its own gravity - balanced.	Liepsnos veržiasi į išorę, įveikdamos savo gravitaciją .	00:17:54-00:17:56	Shorter near-synonym expression or equivalent	Chemistry, Physics	Literal translation
48.	OPPENHEIMER But if its furnace cools, gravity starts winning. It contracts...	Bet jei žaizdras vėsta, persvarą įgija gravitacija . Žvaigždė traukiasi.	00:17:58-00:18:00	Shorter near-synonym expression or equivalent	Physics	Literal translation
49.	SNYDER Density increases...	Didėja tankis .	00:18:06-00:18:07	-	Physics	Literal translation
50.	OPPENHEIMER Increasing gravity ...	Didėja sunkis .	00:18:08-00:18:09	Shorter near-synonym expression or equivalent	Physics	Semantical translation
51.	SNYDER	Didėja tankis .	00:18:10-	Shorter near-	Physics	Semantic

	Increasing density .		00:18:11	synonym expression or equivalent		translation
52.	OPPENHEIMER See where the math takes us.	Žiūrėkim, kur nuves matematika .	00:18:16-00:18:17	Shorter near-synonym expression or equivalent	Mathematics	Literal translation
53.	OPPENHEIMER Yes, you. Your math's better than mine.	Taip, jūs./ Jūsų matematika geresnė už mano.	00:18:21-00:18:23	Shorter near-synonym expression or equivalent	Mathematics	Literal translation
54.	OPPENHEIMER Lawrence, you embrace the revolution in physics ,	Lorensai, išgyveni revoliuciją fizikoj .	00:18:52-00:18:54	Simplification of verbal paraphrases	Physics	Semantic translation
55.	CHEVALIER You're teaching a radical new approach to physics	Kad mokot/ radikaliai kitokio požiūrio į fiziką .	00:20:14-00:20:16	Division of long/compound sentences	Physics	Literal translation
56.	OPPENHEIMER What happens to stars when they die.	Kas nutinka žvaigždėms , kai jos miršta.	00:20:43-00:20:45	-	Astronomy	Literal translation
57.	CHEVALIER Do stars die?	Žvaigždės miršta?	00:20:46-00:20:48	Shorter near-synonym expression or equivalent	Astronomy	Literal translation
58.	OPPENHEIMER they'd cool , then collapse .	jos atvėsta , tada suyra .	00:20:50-00:20:52	Usage of simple tenses	Astronomy	Semantic translation
59.	OPPENHEIMER And the bigger the star , the more violent its demise.	Iš tiesų, kuo didesnė žvaigždė ,/ tuo žiauresnė jos baigtis.	00:20:53-00:20:56	-	Astronomy	Literal translation
60.	OPPENHEIMER	Sunkis tampa/	00:20:57-	Shorter near-	Physics	Literal translation

	Their gravity gets so concentrated, it swallows everything.	toks koncentruotas, praryja viską.	00:20:59	synonym expression or equivalent		
61.	OPPENHEIMER Everything. Even light .	Viską, net šviesą.	00:21:01-00:21:02	Merging of two or more phrases/sentences	Physics	Literal translation
62.	OPPENHEIMER The math says it can.	Matematika teigia, kad gali.	00:21:04-00:21:06	-	Mathematics	Literal translation
63.	OPPENHEIMER If we can get published, maybe one day an astronomer finds one.	Jei išspausdinsim,/ gal astronomai ras tokią.	00:21:07-00:21:08	Shorter near-synonym expression or equivalent	Astronomy	Literal translation
64.	TATLOCK You're a physicist - do you pick and choose rules ?	Jūs fizikas . Parenkat ir taikot dėsnius ?	00:22:00-00:22:02	Division of long/compound sentences	Physics	Communicative translation
65.	TATLOCK Or do you use the discipline to channel your energies into progress?	Ar naudojate savo mokslą,/ kad savo energiją paverstumėt pažangą?	00:22:05-00:22:07	Shorter near-synonym expression or equivalent	Physics	Communicative translation
66.	TATLOCK For a physicist .	Fizikai .	00:22:35-00:22:36	-	Physics	Literal translation
67.	OPPENHEIMER ...destroyer of worlds .'	"Pasaulių naikintoju."	00:23:43-00:23:44	Division of long/compound sentences	Astronomy	Literal translation
68.	OPPENHEIMER Their gravity swallows light .	Jų sunkis praryja šviesą .	00:25:34-00:25:36	-	Physics	Literal translation
69.	OPPENHEIMER It's like a kind of... hole in space .	Tai lyg skylė kosmose .	00:25:37-00:25:40	Merging of two or more phrases/sentences	Astronomy	Literal translation
70.	OPPENHEIMER ...a way to combine	suderinti fiziką ir Naująją Meksiką...	00:25:55-00:25:57	Shorter near-synonym	Physics	Literal translation

	physics and New Mexico...			expression or equivalent		
71.	ALVAREZ They split the uranium nucleus .	Suskaldė urano branduolį.	00:26:42-00:26:43	Shorter near-synonym expression or equivalent	Physics	Literal translation
72.	OPPENHEIMER Bombarded it with neutrons .	Bombardavo neutronais.	00:26:48-00:26:50	Shorter near-synonym expression or equivalent	Physics	Literal translation
73.	ALVAREZ It's nuclear fission .	Tai branduolio skilimas .	00:26:51-00:26:53	-	Physics	Literal translation
74.	ALVAREZ They've split the atom .	Jie suskaldė atomą .	00:26:54-00:26:56	-	Physics	Literal translation
75.	ALVAREZ But look. These fission pulses ... They're massive.	Bet žiūrėk. Skilimo impulsai . Galingi.	00:27:22-00:27:24	Shorter near-synonym expression or equivalent	Physics	Literal translation
76.	OPPENHEIMER extra neutrons boil off. Which could be used to split other uranium atoms ...	išmetami papildomi neutronai ,/ kuriais galima skaldyt kitus urano atomus .	00:27:37-00:27:40	Merging of two or more phrases/sentences	Physics	Literal translation
77.	LAWRENCE A chain reaction .	Grandininė reakcija .	00:27:42-00:27:44	-	Chemistry	Literal translation
78.	OPPENHEIMER You, me and every physicist around the world who's seen the news.	Tu, aš ir visi pasaulio fizikai ,/ matę šią naujieną.	00:27:45-00:27:48	Shorter near-synonym expression or equivalent	Physics	Literal translation
79.	OPPENHEIMER A bomb , Alvarez.	Apie bombą , Alvaresai.	00:27:51-00:27:53	-	Physics	Communicative translation
80.	OPPENHEIMER A bomb .	Apie bombą .	00:27:54-00:27:56	-	Physics	Communicative translation

81.	ELTENTON I work at Shell, we've signed up chemists and engineers...	Aš dirbu "Shell."/ Pakvietėm chemikų , inžinierių...	00:28:45-00:28:48	Merge of two or more phrases/sentences	Chemistry	Semantic translation
82.	Architects, Engineers, Chemists , and Technicians	Architektai, Inžinieriai/ Chemikai ir Technikai	00:29:00-00:29:02	-	Chemistry	Literal translation
83.	F.A.E.C.T.	AICTF	00:29:03-00:29:05	-	Chemistry	Literal translation
84.	SERBER Your paper on black holes - you did it!	-Straipsnis apie juodąsias skyles! / -Opi!	00:29:46-00:29:48	Addition	Astronomy	Literal translation
85.	"Victory or death" - Hitler CITIES BOMBED; DANZIG SEIZED	"Pergalė arba mirtis" - Hitleris/ BOMBARDUOJAMI MIESTAI, DANCIGAS APSIAUSTAS	00:30:04-00:30:05	-	Physics	Literal translation
86.	KITTY Can you explain quantum mechanics to me? It seems baffling.	Gali man paaiškinti kvantinę mechaniką? / Atrodo gluminanti.	00:30:53-00:30:56	-	Physics	Literal translation
87.	OPPENHEIMER ...are mostly empty space...	Iš esmės tai tuščia erdvė.	00:31:13-00:31:15	Division of long/compound sentences	Physics	Literal translation
88.	OPPENHEIMER groupings of tiny energy waves bound together.	Susigrupuotos mažos energijos bangos.	00:31:16-00:31:18	Division of long/compound sentences	Physics	Literal translation
89.	OPPENHEIMER Forces of attraction strong enough to convince us	Traukos jėgų , kurios įtikina mus,	00:31:19-00:31:21	Omission	Physics	Literal translation
90.	OPPENHEIMER that mater is solid...	kad tai kieta materija.	00:31:22-00:31:24	-	Chemistry	Literal translation

91.	OPPENHEIMER (CONT'D) And stop my body passing through yours.	Neleidžia mano kūnui susiliet su tavuoju.	00:31:25- 00:31:27	Shorter near- synonym expression or equivalent	Physics	Literal translation
92.	F.A.E.C.T.	AICTF	00:34:33- 00:34:35	-	Chemistry	Literal translation
93.	OPPENHEIMER The Federation of Architects, Engineer s, Chemists , and Technicians	Architektų, inžinierių/ chemikų ir technikų federacija.	00:34:36- 00:34:39	-	Chemistry	Literal translation
94.	UNIONIZE THE RADIATION LAB	Junkitės į Sąjungą/ RADIACIJOS LABORATORIJOJ!	00:34:43- 00:34:45	-	Physics	Literal translation
95.	OPPENHEIMER Warning him the Germans could make a bomb.	Perspėjo, kad vokiečiai/ gali sukonstruoti bombą.	00:35:26- 00:35:28	-	Physics	Literal translation
96.	OPPENHEIMER And I know what it means for the Nazis to have a bomb.	Žinau, ką naciams reiškia turėti bombą.	00:35:29- 00:35:31	Shorter near- synonym expression or equivalent	Physics	Literal translation
97.	OPPENHEIMER ...to my work on the atomic programme.	dirbti atominėje programoje.	00:36:27- 00:36:29	Shorter near- synonym expression or equivalent	Physics	Literal translation
98.	STRAUSS That's why he advised the Atomic Energy Commission.	Todėl jis patarinėjo Atominės energijos komisijai.	00:36:49- 00:36:51	Shorter near- synonym expression or equivalent	Physics	Literal translation
99.	STRAUSS I didn't. I was the AEC Chairman,	Nepakeičiau. Buvau AEK vadovas	00:37:00- 00:37:02	-	Physics	Literal translation
100.	SENATE AIDE The FBI? Why not	FTB? Kodėl ne tiesiai AEK?	00:37:16- 00:37:18	-	Physics	Literal translation

	come to the AEC direct?					
101.	STRAUSS His opinions on the atom became definitive	Jo teorijos apie atomą tapo galutinės	00:37:53-00:37:55	Shorter near-synonym expression or equivalent	Physics	Literal translation
102.	STRAUSS There was an AEC vote	Buvo AEK balsavimas	00:38:04-00:38:06	-	Physics	Literal translation
103.	STRAUSS on the export of isotopes to Norway...	dėl izotopų eksporto į Norvegiją.	00:38:07-00:38:09	-	Physics	Literal translation
104.	STRAUSS these isotopes could be useful to our enemies in the production of atomic weapons .	kad izotopai galėjo padėti mūsų priešam gaminti atominis ginklus .	00:38:15-00:38:19	Shorter near-synonym expression or equivalent	Physics	Literal translation
105.	OPPENHEIMER Congressman, you could use a shovel in making atomic weapons , in fact, you do.	Kongresmenai, gaminant atominį ginklą / galima naudoti kastuvą. Ir naudojam.	00:38:20-00:38:23	Shorter near-synonym expression or equivalent, division of long/compound sentences	Physics	Literal translation
106.	OPPENHEIMER You could use a bottle of beer in making atomic weapons . In fact, you do.	Galima naudoti butelį alaus. Ir naudojam.	00:38:24-00:38:26	Omission	Physics	Literal translation
107.	OPPENHEIMER I say that isotopes aren't as useful as electronic components ,	Sakau, kad izotopai ne tokie naudingi/ kaip elektronikos komponentai ,	00:38:28-00:38:31	-	Physics	Literal translation
108.	CHEVALIER	Robertai, tu matai daugiau/	00:40:20-	Shorter near-	Astronomy	Literal translation

	Robert, you see beyond the world we live in.	nei pasaulį , kuriam gyvenam.	00:40:22	synonym expression or equivalent		
109.	KITTY No. The world is pivoting in some new direction...	Ne. Pasaulis ./ Jis juda nauja kryptim.	00:40:44- 00:40:46	Division of long/compound sentences	Astronomy	Literal translation
110.	OPPENHEIMER I'd hate to see how you treat a humble physicist .	tai nenorėčiau pamatyt./ kaip elgsitės su nuolankiu fiziku .	00:41:34- 00:41:37	Shorter near-synonym expression or equivalent	Physics	Literal translation
111.	GROVES Theatres of combat all over the world .	-Oi. -Visam pasauli karo teatrai.	00:41:40- 00:41:42	Shorter near-synonym expression or equivalent	Astronomy	Literal translation
112.	GROVES ...you and half of every physics department across America.	Jūs ir pusė kitų šalies fizikų .	00:41:54- 00:41:56	Division of long/compound sentences	Physics	Communicative translation
113.	OPPENHEIMER I thought problem number one would be securing enough uranium ore .	Maniau, problema nr. 1 -/ gaut pakankamai urano rūdos .	00:41:59- 00:42:01	Shorter near-synonym expression or equivalent	Chemistry	Literal translation
114.	GROVES Even though you brought quantum physics to America.	Nors jūs ir atvežėt/ kvantinę fiziką į Ameriką.	00:42:16- 00:42:18	Shorter near-synonym expression or equivalent	Physics	Literal translation
115.	GROVES A Nobel Prize for making a bomb ?	Nobelio premija už bombą ?	00:43:01- 00:43:03	Shorter near-synonym expression or equivalent	Physics	Literal translation
116.	OPPENHEIMER Alfred Nobel invented	Alfredas Nobelis išrado dinamitą .	00:43:04- 00:43:06	Shorter near-synonym	Chemistry	Literal translation

	dynamite.			expression or equivalent		
117.	OPPENHEIMER Our fast neutron research took six months.	Mūsų greitųjų neutronų / tyrimas truko šešis mėnesius.	00:43:21-00:43:24	-	Physics	Literal translation
118.	OPPENHEIMER He has the most intuitive understanding of atomic structure I've ever seen.	Nemačiau žmogaus, taip intuityviai/ suprantančio atomo struktūrą .	00:43:29-00:43:32	Change of negations or questions into affirmative sentences or assertions or vice-versa	Physics	Communicative translation
119.	OPPENHEIMER Hitler called quantum physics 'Jewish science'.	Hitleris pavadino/ kvantinę fiziką "žydų mokslu".	00:43:47-00:43:50	-	Physics	Literal translation
120.	OPPENHEIMER But I can run the Manhattan Project .	Bet galiu vadovaut Manhatano projektui .	00:44:49-00:44:51	-	Physics	Literal translation
121.	OPPENHEIMER Leave the Rad Lab here at Berkeley under Lawrence,	Radiacijos laboratorija / lieka Lorenso žinioj Berkly.	00:44:55-00:44:57	Division of long/compound sentences	Physics	Literal translation
122.	OPPENHEIMER Met Lab in Chicago under Szilard,	Metalurgijos laboratorija / Čikagoj su Silardu.	00:44:59-00:45:00	Division of long/compound sentences	Chemistry	Literal translation
124.	OPPENHEIMER focused on one goal, one point in space and time , coming together... here.	Į vieną tašką erdvėj ir laike . Ir jis yra čia.	00:45:12-00:45:14	Division of long/compound sentences	Physics	Literal translation
125.	FEYNMAN The greatest minds on	Didieji atominės teorijos protai.	00:46:13-00:46:14	Shorter near-synonym	Physics	Literal translation

	atomic theory.			expression or equivalent		
126.	OPPENHEIMER I'm here because you know isotopes , and you- (to Donald) know explosives better than anyone.	Geriausiai pasauly išmanot/ apie izotopus ir apie sprogmenis .	00:46:23- 00:46:25	Generalisation of enumerations	Physics	Literal translation
127.	OPPENHEIMER It's about unleashing the strong force before the Nazis do.	Turim išlaisvint galingą jėgą / ankščiau nei naciai.	00:46:49- 00:46:51	Shorter near-synonym expression or equivalent	Physics	Literal translation
128.	FEYNMAN The Harvard guys say the building's too small for their cyclotron .	Harvardo vaikinai sako./ kad pastatas per mažas ciklotronui .	00:48:01- 00:48:03	Shorter near-synonym expression or equivalent	Physics	Literal translation
129.	OPPENHEIMER Experimental, Theoretical, Metallurgical, Ordnance.	Eksperimentinis, teorijos, / metalurgijos, artilerijos.	00:48:28- 00:48:30	-	Physics	Literal translation
130.	RABI Who's running Theoretical ?	Kas vadovauja teoriniam ?	00:48:30- 00:48:31	-	Physics	Literal translation
131.	RABI You drop a bomb and it falls on the just and the unjust.	Numesi bombą / ir ant teisiųjų, ir ant neteisiųjų.	00:48:57- 00:48:59	Shorter near-synonym expression or equivalent	Physics	Literal translation
132.	RABI I don't wish the culmination of three centuries of physics	Nenoriu, kad trijų šimtmečių/ fizikos kulminacija	00:49:02- 00:49:04	-	Physics	Literal translation
133.	RABI to be a weapon of	būtų masinio naikinimo ginklas .	00:49:05- 00:49:07	-	Physics	Literal translation

	mass destruction.					
134.	OPPENHEIMER I don't know if we can be trusted with such a weapon ,	Nežinau, ar mums/ galima patikėt tokį ginklą .	00:49:18- 00:49:20	Division of long/compound sentences into shorter/simpler ones	Physics	Literal translation
135.	RABI The second thing you have to do is appoint Hans Bethe to head the Theoretical division .	Antras dalykas, kurį turi padaryt, -/ paskirt Hansą Betą vadovaut teoriniam .	00:49:38- 00:49:52	Shorter near-synonym expression or equivalent	Physics	Literal translation
136.	TELLER Calculating chain reactions... I found a rather troubling possibility.	Kai apskaičiavau grandininę reakciją ,/ atradau nerimą keliančią tikimybę.	00:51:04- 00:51:07	Merge of two or more phrases/sentences	Mathematics, Chemistry	Literal translation
137.	OPPENHEIMER Neutron smashes into nucleus releasing neutrons to smash into other nuclei ...	Neutronai suskaldo branduolius ,/ nauji neutronai skaldo kitus branduolius .	00:52:25- 00:52:28	Shorter near-synonym expression or equivalent	Physics	Literal translation
138.	OPPENHEIMER Criticality- the point of no return. Massive explosive force ...	Kritiškai, kelio atgal nebėra./ Didžiulė sprogstamoji galia .	00:52:29- 00:52:32	Shorter near-synonym expression or equivalent	Physics	Literal translation
139.	OPPENHEIMER But the chain reaction doesn't stop...	Bet šįkart grandininė reakcija nesustoja.	00:52:34- 00:52:36	Shorter near-synonym expression or equivalent	Chemistry	Literal translation
140.	EINSTEIN It would ignite the atmosphere .	Padegtu atmosferą .	00:52:37- 00:52:39	Shorter near-synonym expression or equivalent	Chemistry	Literal translation
141.	OPPENHEIMER	Kai susprogdinsim branduolinį užtaisą ,	00:52:41-	-	Physics	Literal translation

	When we detonate an atomic device ,		00:52:43			
142.	OPPENHEIMER we might start a chain reaction that	galim pradėt grandininę reakciją , kuri...	00:52:44- 00:52:46	-	Chemistry	Literal translation
143.	OPPENHEIMER destroys the world.	sunaikins pasaulį.	00:52:47- 00:52:49	-	Physics, Astronomy	Literal translation
144.	EINSTEIN And here we are, lost in your quantum world of probabilities ,	Paklydom tavo kvantiniam tikimybių/ pasauly	00:52:51- 00:52:53	Omission	Physics, Mathematics	Literal translation
145.	OPPENHEIMER Can you run the calculations yourself?	Ar galėtum pats patikrint skaičiavimus?	00:52:57- 00:52:59	Shorter near-synonym expression or equivalent	Mathematics	Literal translation
146.	EINSTEIN About the only thing you and I share is a disdain for mathematics.	Mudu sieja vienintelis/ bendras dalykas - panieka matematikai.	00:53:00- 00:53:03	Shorter near-synonym expression or equivalent	Mathematics	Literal translation
147.	Then neither side destroys the world.	Tada nė viena pusė nesunaikins pasaulio.	00:53:19- 00:53:21	-	Astronomy	Literal translation
148.	RADIATION LABORATORY	RADIACIJOS LABORATORIJA	00:53:47- 00:53:49	-	Physics	Literal translation
149.	BETHE The chances of an uncontrolled nuclear reaction are near zero.	Nevaldomos branduolinės reakcijos/ tikimybė artima nuliui.	00:53:59- 00:54:02	Manipulation of theme and rhyme	Physics	Literal translation
150.	BETHE Until we actually detonate one of these things	Kol iš tikro nesusprogdinom,	00:54:11- 00:54:12	Omission	Physics	Literal translation
151.	BETHE Near zero.	Artima nuliui.	00:54:16- 00:54:17	-	Mathematics	Literal translation

152.	OPPENHEIMER Theory will take you only so far.	Teorija dar ne viskas.	00:54:20-00:54:22	Shorter near-synonym expression or equivalent	Physics	Communicative translation
153.	OPPENHEIMER The chemist from Shell? Union guy?	Su chemiku iš "Shell"?/ Profsajungiečiu?	00:54:37-00:54:38	-	Chemistry	Literal translation
154.	CHEVALIER Yeah. From F.A.E.C.T.	Taip. Jis iš AICTF .	00:54:41-00:54:44	-	Chemistry	Communicative translation
155.	SENATOR MCGEE The Oppenheimer situation highlights the tension between scientists...	Openheimerio padėtis/ paryškina įtampą tarp mokslininkų	00:56:02-00:56:04	Shorter near-synonym expression or equivalent	Physics	Literal translation
156.	SENATOR MCGEE In hopes of learning how the nominee handled such issues during his time at the AEC,	Tikėdamiesi sužinot, kaip nominantas/ sprendė šiuos klausimus AEK,	00:56:08-00:56:11	Shorter near-synonym expression or equivalent	Physics	Literal translation
157.	SENATOR MCGEE we'll have a scientist appearing before the Committee.	pakviesim liudyt į komitetą mokslininkus.	00:56:13-00:56:15	-	Physics	Literal translation
158.	STRAUSS Why seek the opinion of scientists ?	Kuo čia dėta mokslininkų nuomonė?	00:56:21-00:56:23	Shorter near-synonym expression or equivalent	Physics	Literal translation
159.	STRAUSS I'd like to know the name of the scientist testifying.	Noriu sužinot liudijančio/ mokslininko pavardę.	00:56:29-00:56:30	Simplification of verbal periphrases	Physics	Literal translation
160.	COUNSEL	Jie kviečia mokslininką. Na ir kas?	00:56:45-	Division of	Physics	Literal translation

	They bring in a scientist , so what?		00:56:47	long/compound sentences		
161.	STRAUSS You don't know scientists like I do, counselor.	Patarėjau, nepažįstat mokslininkų kaip aš.	00:56:48-00:56:50	Manipulation of theme and rheme	Physics	Literal translation
162.	STRAUSS I was chair of the AEC .	Buvau AEK pirmininkas.	00:56:53-00:56:55	-	Physics	Literal translation
163.	SENATE AIDE ...that the scientific community doesn't support you.	jog mokslo bendruomenė jūsų neremia,/ pone.	00:56:58-00:57:00	-	Physics	Literal translation
164.	STRAUSS Can you find out the name of the scientist they've called?	Galit sužinot,/ kokį mokslininką kviečia jie?	00:57:13-00:57:15	Shorter near-synonym expression or equivalent	Physics	Literal translation
165.	OPPENHEIMER A cargo ship carrying munitions exploded in the harbor...	Prekybinis laivas/ su šaudmenim sprogsta uoste.	00:58:34-00:58:36	Simplification of verbal periphrases	Chemistry	Literal translation
166.	OPPENHEIMER A vast and sudden chemical reaction ...	Didžiulė ir staigi cheminė reakcija .	00:58:40-00:58:43	-	Chemistry	Literal translation
167.	OPPENHEIMER The biggest man-made explosion in history.	Didžiausias žmogaus/ sukurtas sprogimas istorijoje.	00:58:46-00:58:48	-	Chemistry	Literal translation
168.	OPPENHEIMER Let's calculate how much more destructive it would have been with a nuclear ,	Dabar paskaičiuokim, koks naikinantis/ jis būtų, jei būtų įvykus branduolinė ,	00:58:49-00:58:52	Usage of simple rather than compound tenses	Physics	Literal translation
169.	OPPENHEIMER not a chemical reaction .	o ne cheminė reakcija .	00:58:53-00:58:54	-	Chemistry	Literal translation

170.	OPPENHEIMER Expressing power in terms of tons of TNT.	Galią išreikškim trotilo tonomis.	00:58:55-00:58:57	Shorter near-synonym expression or equivalent	Chemistry	Literal translation
171.	OPPENHEIMER Then, kilotons .	Tuomet, kilotonom .	00:58:59-00:59:01	-	Physics	Literal translation
172.	SERBER Using U-235 ,	Jeį naudosis U-235 ...	00:59:07-00:59:08	-	Chemistry	Communicative translation
173.	SERBER the bomb-	bombai reikės...	00:59:09-00:59:10	-	Physics	Communicative translation
174.	SERBER Sorry- the gadget will need a thirty-three-pound sphere, about this size...	Atsiprašau. Prietaisui reikės/ 15 kg sferos. Maždaug tokio dydžio.	00:59:12-00:59:15	Division of long/compound sentences	Physics	Literal translation
175.	SERBER Or using plutonium , a ten-pound sphere...	Jeį naudosis plutonį ,/ tai 4,5 kg sferos.	00:59:17-00:59:19	-	Chemistry	Literal translation
176.	SERBER (CONT'D) Here's the amount of uranium Oak Ridge refined all of last month.	Štai urano kiekis, kurį aną mėnesį išgavo Oak Ridže.	00:59:21-00:59:23	Shorter near-synonym expression or equivalent	Chemistry	Literal translation
177.	SERBER The Hanford plant made this much plutonium ...	O Hanfordo gamykloj/ pagamino tiek plutonio .	00:59:29-00:59:31	-	Chemistry	Literal translation
178.	SERBER If we can enrich these amounts... we need a way to detonate them.	Jeį galim tiek prisodrint, tai reikia kažkaip detonuoti .	00:59:34-00:59:36	Shorter near-synonym expression or equivalent	Physics	Literal translation
179.	TELLER We came into this room knowing a fission	Susirinkom čia žinodami, kad skylanti bomba įmanoma.	00:59:43-00:59:45	Shorter near-synonym expression or	Physics	Communicative translation

	bomb was possible.			equivalent		
180.	TELLER Instead of uranium , or plutonium , we use hydrogen .	Vietoj uranio ar plutonio naudokim vandenilį .	00:59:52-00:59:54	-	Chemistry	Literal translation
181.	TELLER Heavy hydrogen . MURMURS IN BACKGROUND	-Sunkuji vandenilį . -Vandenilį.	00:59:55-00:59:56	-	Chemistry	Communicative translation
182.	TELLER Deuterium . See?	Deuterį . Matot?	00:59:58-00:59:59	-	Chemistry	Literal translation
183.	TELLER We compact the atoms	Mes suspaudžiam atomus .	01:00:00-01:00:02	Division of long/compound sentences	Physics	Literal translation
184.	TELLER under great force and induce a fusion reaction .	Didelis slėgis sukelia sintezės reakciją .	01:00:03-01:00:05	Division of long/compound sentences	Physics	Literal translation
185.	TELLER Then we get not kilotons	Tada gausim ne kilotonas ,	01:00:06-01:00:07	-	Physics	Literal translation
186.	TELLER but megatons .	o megatonas .	01:00:08-01:00:10	Shorter near-synonym expression or equivalent	Physics	Literal translation
187.	OPPENHEIMER How do you generate enough force to fuse hydrogen atoms ?	Kaip generuosi jėgą ./ dėl kuri o vandenilio atomai jungsis ?	01:00:12-01:00:14	Shorter near-synonym expression or equivalent	Physics, Chemistry	Literal translation
188.	TELLER A small fission bomb .	Su maža skylandžia bomba .	01:00:16-01:00:18	-	Physics	Communicative translation
189.	SENATOR BARTLETT	Klausimas dėl izotopų / buvo ne pats svarbiausias	01:00:25-01:00:28	-	Physics	Literal translation

	The isotopes issue wasn't your most important					
190.	SENATOR BARTLETT It was the Hydrogen bomb , wasn't it?	Tai buvo vandenilinė bomba , ar ne?	01:00:31-01:00:33	-	Physics	Literal translation
191.	STRAUSS One of them was the need for an H-programme .	Vienas iš jų -/ vandenilinės bombos programa .	01:00:40-01:00:42	Shorter near-synonym expression or equivalent	Physics	Communicative translation
192.	BUSH One of our B-29s over the north Pacific picked up radiation .	Vienas mūsų B-29 Ramiojo vandenyno/šiaurėj užfiksavo radiaciją .	01:01:04-01:01:07	Shorter near-synonym expression or equivalent	Physics	Literal translation
193.	OPPENHEIMER It's an atomic test .	Tai branduolinis bandymas .	01:01:17-01:01:19	-	Physics	Literal translation
194.	STRAUSS The Russians have a bomb .	Rusai turi bombą .	01:01:22-01:01:24	-	Physics	Literal translation
195.	SERBER We can now consider the actual mechanics of the detonation .	Dabar galim apsvarstyt sprogimo/mechaniką .	01:01:38-01:01:40	Shorter near-synonym expression or equivalent	Physics	Literal translation
196.	SERBER I call this ' shooting '.	Vadinu tai " apšaudymu ".	01:01:42-01:01:43	-	Physics	Literal translation
197.	SERBER We fire a chunk of fissionable material into the larger sphere	Paleidžiam skylančios/medžiagos gabalą į didesnę sferą.	01:01:44-01:01:46	Division of long/compound sentences	Physics	Literal translation
198.	SERBER with enough force to achieve criticality.	Su pakankamai galios pasiekt kritinę ribą.	01:01:47-01:01:49	Division of long/compound sentences	Physics	Literal translation
199.	TOLMAN	Galvojau apie imploziją .	01:01:51-	-	Physics	Literal translation

	I've been thinking about implosion .		01:01:52			
200.	TOLMAN Explosives around the sphere blast inwards,	Sprogmenys aplink sferą sprogsta į vidų,	01:01:53-01:01:55	-	Physics	Literal translation
201.	TOLMAN crushing the material.	gniuždo medžiagą.	01:01:56-01:01:57	Simplification of verbal periphrases	Physics	Literal translation
202.	STRAUSS They just fired the starting gun .	Jie ką tik iššovė starterį .	01:03:36-01:03:38	-	Physics	Literal translation
203.	STRAUSS What's the nature of the device they detonated ?	Kokį prietaisą jie detonavo ?	01:03:39-01:03:41	Shorter near-synonym expression or equivalent	Physics	Literal translation
204.	OPPENHEIMER The data indicates it may have been a plutonium implosion device .	Duomenys rodo,/ kad galėjo būt plutonio bomba .	01:03:42-01:03:45	Omission	Physics	Literal translation
205.	STRAUSS The Russians have a bomb , Truman needs to know what's next.	Rusai turi bombą ./ Trumanas turi žinot, kas toliau.	01:03:48-01:03:50	Division of long/compound sentences	Physics	Literal translation
206.	STRAUSS What about the Super ? Does Truman even know about it?	O kaip " Super "? Ar Trumanas apie ją žino?	01:03:56-01:03:58	Shorter near-synonym expression or equivalent	Physics	Literal translation
207.	OPPENHEIMER We still don't know if a Hydrogen bomb is technically feasible.	Dar nežinom, ar vandenilinė bomba / techniškai įmanoma.	01:04:01-01:04:04	Shorter near-synonym expression or equivalent	Physics	Literal translation
208.	FERMI The first self-sustaining nuclear chain	Pirmoji savarankiška branduolinė reakcija .	01:05:17-01:05:19	Omission	Physics, Chemistry	Communicative translation

	reaction.					
209.	HORNIG Harvard forgot to teach that on the graduate chemistry course.	Harvarde pamiršo/ to išmokyti chemijos alumnus.	01:05:37- 01:05:39	-	Chemistry	Communicative translation
210.	OPPENHEIMER Put Mrs Hornig on the plutonium team.	Kondonai, įtrauk panelę Hornig/ į plutonio komandą.	01:05:41- 01:05:43	-	Physics	Literal translation
211.	CONDON Visiting the Met Lab -	Lankėm metalurgus .	01:05:52- 01:05:53	-	Physics	Literal translation
212.	ROBB In the light of current AEC guidelines would you clear Dr Oppenheimer today?	Ar pagal dabartinės AEK taisyklės šiandien/ suteiktumėt dr. Openheimeriui leidimą?	01:07:43- 01:07:46	Shorter near-synonym expression or equivalent	Physics	Literal translation
213.	ROBB In the light of current AEC guidelines...	Ar pagal dabartinės AEK taisyklės...	01:07:54- 01:07:56	Shorter near-synonym expression or equivalent	Physics	Literal translation
214.	LAWRENCE Physics and New Mexico, huh?	Fizika ir Naujoji Meksika?	01:08:11- 01:08:13	Shorter near-synonym expression or equivalent	Physics	Literal translation
215.	STRAUSS were any of them involved with discussions of the Super ?	ar jie dalyvavo diskusijose apie " Super "?	01:09:18- 01:09:20	-	Physics	Literal translation
216.	NICHOLS Your friend Lomanitz has been trying to unionize the Radiation Lab .	Jūsų draugas bandė kurti/ sąjungą Radiacijos laboratorijoj.	01:10:15- 01:10:17	Usage of pronouns	Physics	Literal translation
217.	NICHOLS	-AI...	01:10:25-	-	Chemistry	Literal translation

	F-A... OPPENHEIMER F-A-E-C-T.	-AICTF.	01:10:27			
218.	PASH I gather you've heard there are other parties interested in the work of the Radiation Lab...	Spēju, girdējot, kad ir kiti/ domisi darbu Radiācijas laboratorijoj.	01:17:01- 01:17:04	Shorter near-synonym expression or equivalent	Physics	Literal translation
219.	OPPENHEIMER I think he's a chemist employed by Shell.	Atrodo chemikas , dirbantis "Shell".	01:18:07- 01:18:09	Shorter near-synonym expression or equivalent	Chemistry	Literal translation
220.	PASH ... determining the status of the Nazi bomb project.	spřēsiu, kokioj stadijoj/ nacių bombos projekts.	01:20:36- 01:20:38	Shorter near-synonym expression or equivalent	Physics	Literal translation
221.	BOHR The British pilots put me in the bomb bay...	Britų pilotai įkišo mane į bombų skyrių.	01:21:38- 01:21:40	Division of long/compound sentences	Physics	Literal translation
222.	BOHR ...showed me the oxygen - of course I messed it up.	Parodė, kur deguonis, bet aš susipainiojau.	01:21:41- 01:21:43	Division of long/compound sentences	Physics	Literal translation
223.	BOHR sustained fission reactions in uranium...	Nepertraukiama dalijimosi reakcija urane.	01:22:12- 01:22:14	Division of long/compound sentences	Physics	Literal translation
224.	TOLMAN That sounds more like a reactor than a bomb .	Labiau panašu į reaktorių , ne į bombą .	01:22:16- 01:22:18	-	Physics	Literal translation
225.	TELLER Did he mention gaseous diffusion?	Minėjo dujinę difuziją?	01:22:18- 01:22:19	Shorter near-synonym expression or	Physics	Literal translation

				equivalent		
226.	BOHR He seemed more focused on heavy water .	Atrodė, jį labiau domina sunkusis vanduo .	01:22:20-01:22:21	Shorter near-synonym expression or equivalent	Chemistry	Literal translation
227.	TELLER As a moderator ?	Kaip regulatorius ?	01:22:22-01:22:23	-	Physics	Literal translation
228.	BOHR Yes. Instead of graphite .	Taip, vietoj grafito .	01:22:24-01:22:26	Merge of two or more phrases/sentences	Physics	Literal translation
229.	BOHR The power you're revealing will forever outlive the Nazis.	Galia , kurią tuoj atskleisi/ amžiams pergyvens nacių.	01:22:54-01:22:57	-	Physics	Literal translation
230.	OPPENHEIMER She took barbiturates ... But there was chloral hydrate in her blood ...	Išgėrė barbituatų / bet kraujy buvo chloralhidrato .	01:24:03-01:24:06	Merge of two or more phrases/sentences	Chemistry, Medicine	Literal translation
231.	HORNIG Bob, I'm not quitting my job because plutonium's radioactive!	Bobai, nemesiu darbo dėl to, kad plutonis radioaktyvus .	01:24:54-01:24:57	Shorter near-synonym expression or equivalent	Physics	Literal translation
232.	SERBER We can't know what it might do to your reproductive system -	Nežinom, kaip jis gali paveikt/ moterų reprodukcinę sistemą ...	01:24:58-01:25:01	-	Medicine	Literal translation
233.	HORNIG Your reproductive system 's more exposed than mine.	Tavo reprodukcinė sistema / atviresnė nei mano.	01:25:01-01:25:03	Shorter near-synonym expression or equivalent	Medicine	Literal translation
234.	KISTIAKOWSKY The implosion device	Sprogimo mechanizmo nėra.	01:25:04-01:25:06	-	Physics	Communicative translation

	is nowhere.					
235.	BETHE I've been asking for calculations on the implosion lenses for weeks!	Ne vieną savaitę prašiau sprogimo lęšių .	01:25:14-01:25:16	-	Physics	Communicative translation
236.	BETHE On a Hydrogen bomb we're not even building!	Vandenilinės bombos , kurios net nekuriam.	01:25:23-01:25:25	Shorter near-synonym expression or equivalent	Physics	Literal translation
237.	OPPENHEIMER Seth, I'm putting you on plutonium .	Setai, tu imsiesi plutonio .	01:25:44-01:25:45	Shorter near-synonym expression or equivalent	Physics	Literal translation
238.	OPPENHEIMER Fuchs, take Teller's role. You're exclusively on the implosion device .	Fuchsai, perimk Telerio vaidmenį./ Tu atsakingas vien už sprogdiklį .	01:25:50-01:25:53	Shorter near-synonym expression or equivalent	Physics	Communicative translation
239.	OPPENHEIMER Forget Hans, forget fission .	Pamiršk Hansą, pamiršk skilimą .	01:26:14-01:26:16	-	Physics	Literal translation
240.	OPPENHEIMER Fusion . The Hydrogen bomb . Whatever. We'll meet to discuss.	Sintezę, vandenilinę bombą . Bet ką./ Susitiksim aptart.	01:26:21-01:26:24	-	Physics	Literal translation
241.	TELLER You left physics behind long ago.	Jau seniai apleidai fiziką .	01:26:28-01:26:30	Shorter near-synonym expression or equivalent	Physics	Literal translation
242.	ROBB (O.S.) So the Super was under development on your watch at Los	"Super" buvo kuriama/ Los Alamosė jums prižiūrint?	01:27:46-01:27:48	Shorter near-synonym expression or equivalent	Physics	Literal translation

	Alamos...					
243.	ROBB Didn't you try to kill it at the AEC meeting after the Russian bomb test?	Ar nebandėt jos nužudyti AEK posėdy/ po rusų bombos bandymo?	01:26:58- 01:27:00	-	Physics	Literal translation
244.	OPPENHEIMER No. ROBB But that was the recommendation the AEC offered, was it not?	-Ne./ -Bet buvo AEK rekomendacija...	01:27:01- 01:27:03	-	Physics	Literal translation
245.	RABI H-bomb.	H-bomba.	01:27:07- 01:27:09	-	Physics	Word-for-word translation
246.	RABI One thousand times the power of an A-bomb.	1000 kartų galingesnė už A-bombą.	01:27:10- 01:27:12	Shorter near-synonym expression or equivalent	Physics	Literal translation
247.	BUSH than our current arsenal of atomic bombs ?	nei turimas atominių bombų arsenalas?	01:27:30- 01:27:32	Shorter near-synonym expression or equivalent	Physics	Literal translation
248.	LAWRENCE The Hydrogen bomb can be made to work, Oppie. You know that.	Vandenilinė bomba/ įmanoma, Opi. Tu tą žinai.	01:27:56- 01:27:58	Shorter near-synonym expression or equivalent	Physics	Literal translation
249.	OPPENHEIMER By limiting the spread of atomic weapons	Tiesiog apribojęs atominių ginklų plitimą,	01:28:05- 01:28:06	-	Physics	Literal translation
250.	OPPENHEIMER through international control of nuclear energy.	įvedęs tarptautinę/ atominės energijos kontrolę.	01:28:07- 01:28:09	-	Physics	Literal translation

251.	OPPENHEIMER Lewis, do you understand that if we build a Hydrogen bomb ,	Luisai, supranti?/ Jei sukonstruosim vandenilio bombą ,	01:28:23- 01:28:26	Division of long/compound sentences	Physics	Literal translation
252.	OPPENHEIMER by committing that we will not build the Hydrogen bomb .	Įsipareigosim nekurt vandenilinės bombos .	01:28:39- 01:28:41	Division of long/compound sentences	Physics	Literal translation
253.	OPPENHEIMER Joint Committee on Atomic Energy .	Jungtinis atominės energijos komitetas?	01:29:09- 01:29:10	-	Physics	Word-for-word translation
254.	BORDEN ...for such an enemy rocket to carry an atomic warhead ...	jei tokia priešo raketa/ skraidintų atominę galvutę .	01:29:26- 01:29:28	-	Physics	Literal translation
255.	SENATOR MCGEE Didn't you accuse Oppenheimer of sabotaging the development of the Super ?	Kaltinot Openheimerį/ "Super" kūrimo sabotazu?	01:30:02- 01:30:04	Shorter near-synonym expression or equivalent	Physics	Literal translation
256.	SENATOR MCGEE Or someone else at the AEC ?	Ar kas kitas iš AEK ?	01:30:24- 01:30:25	-	Physics	Literal translation
257.	Discussion! The Impact of the Gadget on Civilization	Diskusija!/ Bombos poveikis civilizacijai	01:30:49- 01:30:51	-	Physics	Communicative translation
258.	...on my humble opinion, there's no need...	mano kuklia nuomone, nebūtina visur rodyt tos bombos .	01:30:57- 01:30:59	-	Physics	Literal translation
259.	GROVES Two viable bombs . I need a date.	Dvi gyvos bombos . Man reikia datos.	01:32:50- 01:32:52	-	Physics	Faithful translation

260.	OPPENHEIMER Trinity.	Trejybė.	01:33:29- 01:33:31	-	Physics	Word-for-word translation
261.	OPPENHEIMER You and Einstein, with your letter to Roosevelt saying we could build a bomb-	Tu ir Einšteinas su laišku Ruzveltui,/ kad galim pasigamint bombą.	01:35:07- 01:35:10	Shorter near-synonym expression or equivalent	Physics	Literal translation
262.	STIMSON The firestorm in Tokyo killed one hundred thousand people.	Liepsnos Tokijuj pražudė 100 000 žmonių.	01:35:24- 01:35:26	Shorter near-synonym expression or equivalent	Physics	Literal translation
263.	STIMSON Enough to unleash the atomic bomb?	Užteks atominei bombai?	01:35:41- 01:35:43	Shorter near-synonym expression or equivalent	Physics	Literal translation
264.	FERMI In truth, the A-bomb might not cause as much damage as the Tokyo bombings.	A-bomba gali nepridaryt tiek žalos,/ kiek Tokijo bombardavimas.	01:35:44- 01:35:47	Shorter near-synonym expression or equivalent	Physics	Literal translation
265.	OPPENHEIMER Don't underestimate the psychological impact of an atomic explosion...	Nenuvertinkim psichologinio/ atominio sproginio poveikio.	01:35:54- 01:35:57	Shorter near-synonym expression or equivalent	Physics	Literal translation
266.	OPPENHEIMER A pillar of fire ten thousand feet tall,	3 km aukščio stulpas.	01:35:58- 01:36:00	Manipulation of theme and rheme, Omission, Division of long/compound sentences	Physics	Communicative translation
267.	OPPENHEIMER deadly neutron effects for a mile in all	Mirtinas neutronų poveikis/ pusanthro kilometro spinduliu.	01:36:01- 01:36:04	Division of long/compound sentences	Physics	Literal translation

	directions...					
268.	OPPENHEIMER From one. Single. Device.	Nuo vienintelės bombos.	01:36:05- 01:36:07	Merge of two or more phrases/sentences	Physics	Communicative translation
269.	OPPENHEIMER The atomic bomb will be	Atominė bomba bus	01:36:09- 01:36:10	-	Physics	Literal translation
270.	LAWRENCE Is there no way to demonstrate the bomb to Japan to provoke surrender?	Ar nėra kaip pademonstruoti bombos / ir išprovokuoti japonus pasiduoti?	01:36:44- 01:36:47	Shorter near- synonym expression or equivalent	Physics	Literal translation
271.	GROVES Once to show the weapon's power.	Pirmą kartą parodysim ginklo galią...	01:36:52- 01:36:53	-	Physics	Literal translation
272.	STIMSON The use of the atomic bomb against Japanese cities will save lives.	Atominė bomba / ant japonų miestų išgelbės gyvybes.	01:37:31- 01:37:33	Shorter near- synonym expression or equivalent	Physics	Literal translation
273.	OPPENHEIMER If we use this weapon without informing our allies,	Jeį panaudosim ginklą / neinformavę sąjungininkų...	01:37:38- 01:37:40	Shorter near- synonym expression or equivalent	Physics	Literal translation
274.	BUSH Secrecy won't stop the Soviets becoming part of the atomic world.	Slaptumas nesulaikys sovietų/ nuo įsiliejimo į atominį pasaulį.	01:37:45- 01:37:47	Shorter near- synonym expression or equivalent	Physics	Literal translation
275.	BYRNES We've been told they have no uranium.	Mums sakė, kad jie neturi urano.	01:37:48- 01:37:49	Shorter near- synonym expression or equivalent	Physics	Literal translation
276.	BUSH A Russian bomb is only a matter of time.	Rusų bomba - tik laiko klausimas.	01:37:51- 01:37:53	Shorter near- synonym expression or	Physics	Literal translation

				equivalent		
277.	OPPENHEIMER Not all the scientists on the project agree.	Ne visi mokslininkai / iš projekto pritaria...	01:38:00- 01:38:02	-	Physics	Literal translation
278.	OPPENHEIMER If you talked to... GROVES The Manhattan Project's	-Jei paklaustumėt... -Manhatano projektas	01:38:05- 01:38:07	-	Physics	Literal translation
279.	GROVES ...certain scientists of doubtful discretion and uncertain loyalty.	tam tikrų abejotino/ diskretiškumo ir lojalumo mokslininkų .	01:38:10- 01:38:12	-	Physics	Literal translation
280.	MARSHALL If a Russian bomb is inevitable,	Jei rusų bomba neišvengiama,	01:38:25- 01:38:27	-	Physics	Literal translation
281.	MARSHALL perhaps we should invite their top scientists to Trinity .	tai gal turėtumėm pakviest/ geriausiai jų mokslininkus į Trejbę ?	01:38:28- 01:38:31	-	Physics	Literal translation
282.	BYRNES that Stalin be included in the atomic project .	kad Stalinas bus įtrauktas/ į atominį projektą .	01:38:33- 01:38:35	-	Physics	Literal translation
283.	STIMSON Can you give us a working bomb by then?	Ar tuomet jau turėsime veikiančią bombą ?	01:38:48- 01:38:50	Shorter near- synonym expression or equivalent	Physics	Literal translation
284.	OPPENHEIMER Where do we trigger from?	Iš kur įjungsim .	01:39:03- 01:39:05	Change of negations or questions into affirmative sentences or assertions or vice- versa	Physics	Literal translation

285.	OPPENHEIMER What's that, Frank? The trigger lines went in already.	Kas čia, Frenkai? Prietaisas jau įjungtas.	01:39:17- 01:39:19	Shorter near-synonym expression or equivalent	Physics	Communicative translation
286.	FRANK The air force requested a line of lights for their B-29.	Oro pajėgos pareikalavo/ šviesų linijos jų B-29.	01:39:19- 01:39:21	-	Physics	Literal translation
287.	GROVES What B-29? Our bomb's on the tower.	Koks B-29? Mūsų bomba ant bokšto.	01:39:22- 01:39:24	-	Physics	Literal translation
288.	FRANK ...and hoping we were right about the blast radius .	ir tikėtis, kad tiksliai apskaičiuvom/ sprogimo skersmenį .	01:39:30- 01:39:32	-	Physics	Literal translation
289.	TELLER What about the radiation cloud ?	O kaip radiacijos debesis ?	01:40:39- 01:40:40	-	Physics	Literal translation
290.	BETHE We need a final implosion test.	Vertėtų išbandyt sprogdiklį .	01:41:30- 01:41:32	-	Physics	Adaptation
291.	FERMI Oppie's taken a very modest three kilotons ...	Opis stato už/ labai kuklias tris kilotonas .	01:43:36- 01:43:38	-	Physics	Literal translation
292.	FERMI Twenty thousand tons of TNT ...	20 000 tonų trotilo ...	01:43:41- 01:43:42	-	Chemistry	Literal translation
293.	FERMI And does anyone want the side action on total atmospheric ignition ?	Ar kas nors už šalutinį poveikį - atmosferos padegimą ?	01:43:43- 01:43:46	Shorter near-synonym expression or equivalent	Chemistry	Literal translation
294.	KISTIAKOWSKY Bethe's calling you to	Betė skambina./ Sprogdiklio bandymas nepavyko.	01:43:58- 01:44:00	Division of long/compound	Physics	Communicative translation

	tell you the implosion test failed.			sentences, Shorter near-synonym expression or equivalent		
295.	OPPENHEIMER So we're about to fire a dud ?	Tuoj paleisim nesprogstančią bombą ?	01:44:12-01:44:14	Shorter near-synonym expression or equivalent	Physics	Communicative translation
296.	KISTIAKOWSKY I just know the implosion lenses will work.	Žinau, kad sprogdiklio lęšiai veiks.	01:44:17-01:44:19	Shorter near-synonym expression or equivalent	Physics	Literal translation
297.	OPPENHEIMER If we fire those detonators and they don't trigger the reaction ,	Jei paleisim sprogdiklius / ir jie nesukels reakcijos ...	01:44:20-01:44:22	Division of long/compound sentences	Physics	Literal translation
298.	OPPENHEIMER two years' worth of plutonium will be scattered across white sands.	Dvejus metus kauptas plutonis / bus išbarstytas smėly.	01:44:22-01:44:24	Division of long/compound sentences	Physics	Literal translation
299.	RABI ...get your men away from the steel tower with the atomic bomb ?	kad dingtų nuo plieninio/ bokšto su atomine bomba ?	01:44:42-01:44:45	Shorter near-synonym expression or equivalent	Physics	Literal translation
300.	OPPENHEIMER We stand down, make the bomb safe, it's weeks before we get back here.	Jei nusileisim, apsaugosim bombą ,/ tai negrišim čia savaitėm.	01:45:00-01:45:03	Shorter near-synonym expression or equivalent, Change of negations or questions into affirmative sentences or	Physics	Literal translation

				assertions or vice-versa		
301.	GROVES If it doesn't go off...	Jeį ji nesprogs...	01:45:34- 01:45:36	-	Physics	Literal translation
302.	OPPENHEIMER I put my money on three kilotons .	Lažinausi dėl trijų kilotonų .	01:45:41- 01:45:43	Shorter near-synonym expression or equivalent	Physics	Literal translation
303.	GROVES What did Fermi mean by ' atmospheric ignition '?	Ką Fermis turėjo omeny/sakydamas " atmosferos padegimas "?	01:45:46- 01:45:48	-	Chemistry	Literal translation
304.	OPPENHEIMER ...the chain reaction from an atomic device might never stop.	kad grandininė reakcija /gali niekada nesustot.	01:45:51- 01:45:54	Shorter near-synonym expression or equivalent	Chemistry, Physics	Literal translation
305.	OPPENHEIMER Setting fire to the atmosphere .	Ir padegs atmosferą .	01:45:56- 01:45:57	-	Chemistry	Literal translation
306.	GROVES ...we destroy the world ?	sunaikinsim pasaulį ?	01:46:08- 01:46:09	-	Astronomy	Literal translation
307.	OPPENHEIMER What do you want from theory alone?	Ko norėt vien iš teorijos ?	01:46:22- 01:46:24	Shorter near-synonym expression or equivalent	Physics	Literal translation
308.	FEYNMAN The glass stops the UV.	Stiklas./ Sulaiko ultravioletinius spindulius .	01:48:45- 01:48:47	Division of long/compound sentences	Physics	Literal translation
309.	GROVES Try not to blow up the world .	Pasistenk nesusprogdinti pasaulio .	01:48:57- 01:48:59	-	Astronomy	Literal translation
310.	OPPENHEIMER If the detonators don't	Jeį detonatoriai neįsikraus	01:49:11- 01:49:12	-	Physics	Literal translation

	charge,					
311.	OPPENHEIMER or if the voltage dips below one volt ,	ar jei įtampa nukris žemiau vieno volto ...	01:49:11- 01:49:13	-	Physics	Literal translation
312.	LOUDSPEAKER Two minutes to detonation ...	Dvi minutės iki detonacijos .	01:49:26- 01:49:28	-	Physics	Literal translation
313.	ARMY CAPTAIN Do not turn around until you see light reflected on the hills.	Nesisukit, kol pamatysit/ nuo kalnų atsispindinčią šviesą .	01:49:31- 01:49:33	-	Physics	Literal translation
314.	ARMY CAPTAIN Then look at the explosion only through the welder's glass...	Tada į sprogimą žiūrėkit/ tik per suvirintojų skydelį.	01:49:34- 01:49:36	-	Physics	Literal translation
315.	LOUDSPEAKER Ninety seconds to detonation .	90 sekundžių iki detonacijos .	01:49:37- 01:49:39	-	Physics	Literal translation
316.	LOUDSPEAKER Ninety seconds to detonation .	90 sekundžių iki detonacijos .	01:49:42- 01:49:44	-	Physics	Literal translation
317.	LOUDSPEAKER Sixty seconds to detonation .	60 sekundžių iki detonacijos .	01:49:53- 01:49:55	-	Physics	Literal translation
318.	OPPENHEIMER ...destroyer of worlds .'	"Pasaulių naikintoju."	01:52:47- 01:52:49	-	Astronomy	Literal translation
319.	OPPENHEIMER If they detonate it too high in the air , the blast won't be as powerful...	Jei susprogdins per aukštai ore ,/ sprogimas bus ne toks galingas.	01:55:27- 01:55:30	-	Physics, Chemistry	Literal translation
320.	OPPENHEIMER The fact that we built this bomb	Tas faktas, kad sukonstravom bombą	01:57:01- 01:57:03	Shorter near- synonym expression or	Physics	Literal translation

				equivalent		
321.	OPPENHEIMER Once it's used, nuclear war , maybe all war,	Atominis karas... Turbūt bet koks karas...	01:57:20- 01:57:22	Shorter near-synonym expression or equivalent	Physics	Literal translation
322.	TELLER Until somebody builds a bigger bomb .	Kol kas nors pasigamins didesnę bombą .	01:57:26- 01:57:28	-	Physics	Literal translation
323.	TRUMAN (over radio) <i>an American airplane dropped one bomb on Hiroshima</i>	amerikiečių lėktuvas numetė/ vieną bombą ant Hirosimos	01:58:24- 01:58:26	-	Physics	Literal translation
324.	TRUMAN (over radio) <i>That bomb had more power than twenty thousand tons of TNT...</i>	Bomba turėjo daugiau galios / nei 20 000 tonų trotilo .	01:58:35- 01:58:38	-	Physics, Chemistry	Literal translation
325.	TRUMAN (over radio) <i>It is an atomic bomb.</i>	Tai atominė bomba .	01:58:45- 01:58:47	-	Physics	Literal translation
326.	TRUMAN (over radio) <i>It is a harnessing of the basic power of the universe...</i>	Pažabota pagrindinė visatos galia.	01:58:48- 01:58:50	Shorter near-synonym expression or equivalent	Astronomy	Literal translation
327.	OPPENHEIMER The world ...	Pasaulis ...	02:00:58- 02:00:59	-	Astronomy	Literal translation
328.	TIME "Father of the Atomic Bomb "	TIME "Atominės bombos tėvas"	02:03:46- 02:03:48	-	Physics	Literal translation
329.	OPPENHEIMER ...international cooperation on atomic energy ,	tarptautinį bendradarbiavimą/ atominės energijos srityje,	02:05:01- 02:05:03	-	Physics	Communicative translation
330.	TRUMAN You know when the Soviets are gonna have	Ar žinot, kada sovietai turės bombą ?	02:05:07- 02:05:09	-	Physics	Literal translation

	a bomb ?					
331.	OPPENHEIMER Mr President, the Russians have good physicists ...	Pone prezidentė, rusai turi gerų fizikų ...	02:05:15- 02:05:17	-	Physics	Literal translation
332.	TRUMAN ...who built the bomb ?	rūpi, kas sukonstravo bombą ?	02:06:35- 02:06:37	-	Physics	Literal translation
333.	STRAUSS ...he'd fully embraced his 'father of the bomb ' reputation...	jis buvo visiškai susitaikęs/ su " bombos tėvo " reputacija,	02:07:21- 02:07:24	Shorter near- synonym expression or equivalent	Physics	Communicative translation
334.	NO 1 THINKER ON ATOMIC ENERGY	NR. 1 ATOMINĖS ENERGIJOS MĄSTYTOJAS	02:07:22- 02:07:22	-	Physics	Faithful translation
335.	ROBB ...you exerted a great influence on the atomic policies of the USA?	naudojotės savo didžiule įtaka, kreipdamas JAV atominę politiką?	02:07:37- 02:07:40	-	Physics	Communicative translation
336.	ROBB Really? If we look at the issue of isotopes ...	Tikrai? Tarkim, izotopų klausimas.	02:07:44- 02:07:46	Shorter near- synonym expression or equivalent	Physics	Literal translation
337.	OPPENHEIMER You can use a bottle of beer for making atomic weapons , in fact, you do...	Ar kuriant atominį ginklą galima/ naudoti butelį alaus? Ir naudojam.	02:07:50- 02:07:53	Change of negations or questions into affirmative sentences or assertions	Physics	Literal translation
338.	OPPENHEIMER I was the spokesman, but the opinion was unanimous amongst scientists .	Buvau pirmininkas, bet mokslininkų / nuomonė buvo vieninga.	02:07:54- 02:07:57	-	Physics	Literal translation
339.	STRAUSS	siūlyt ginklų kontrolę/	02:08:18-	-	Physics	Communicative

	to recommend arms control instead of the H-bomb.	vietoj vandenilinės bombos.	02:08:21			translation
340.	TRUMAN ANNOUNCES H-BOMB PROGRAMME	TRUMANAS SKELBIA/ H-BOMBOS PROGRAMĄ	02:08:27-02:08:29	-	Physics	Literal translation
341.	STRAUSS to meet the father of the atomic bomb...	su atominės bombos tėvu, tad...	02:08:45-02:08:47	-	Physics	Literal translation
342.	OPPENHEIMER For the world.	Pasauliui.	02:09:01-02:09:03	-	Astronomy	Literal translation
343.	STRAUSS The world? What does Fuchs mean to rest of the world?	Pasauliui? Ką Fuchsas/ reiškia likusiam pasauliui?	02:09:05-02:09:08	-	Astronomy	Literal translation
344.	STRAUSS Klaus Fuchs, the British scientist you put onto the implosion team at Los Alamos.	Klausas Fuchsas, britų mokslininkas, / kurį paėmei į komandą Los Alamosė...	02:09:17-02:09:20	Omission	Physics	Literal translation
345.	STRAUSS But whoever did unleashed a firestorm	Kad ir kas ten buvo,/ sukėlė tikrą ugnies audrą,	02:10:54-02:10:56	Shorter near-synonym expression or equivalent	Chemistry	Literal translation
346.	STRAUSS that burned a path from the White House right to my desk at the AEC.	kuri išdegino taką/ nuo Baltųjų rūmų iki mano stalo AEK.	02:10:56-02:10:59	-	Physics	Literal translation
347.	STRAUSS ...for not supporting their petition against bombing Japan.	kad jis neparėmė jų peticijos/ prieš Japonijos bombardavimą.	02:11:30-02:11:32	-	Physics	Literal translation
348.	MORRISON	Fotografuota praėjus/	02:11:34-	-	Physics	Literal translation

	This was taken thirty-one days after the bombing .	31 dienai po sprogimo .	02:11:36			
349.	MORRISON ...was instantly and seriously burned .	akimirksniu sudegė .	02:11:43- 02:11:45	Omission	Medicine	Adaptation
350.	MORRISON ...upon whom the skin was burned in stripes.	Po jais oda nudegė dryžiais.	02:11:51- 02:11:53	Division of long/compound sentences	Medicine	Literal translation
351.	MORRISON ...who crawled out of the ruins of their homes only slightly injured .	Jie išropojo iš savo namų/ griuvėsių nesunkiai sužeisti .	02:11:58- 02:12:00	Division of long/compound sentences	Medicine	Literal translation
352.	MORRISON But they died anyway.	Bet mirė ir jie.	02:12:03- 02:12:04	Shorter near-synonym expression or equivalent	Medicine	Literal translation
353.	MORRISON Died days or weeks later	Mirė po kelių dienų ar savaitių	02:12:06- 02:12:08	-	Medicine	Literal translation
354.	MORRISON from the radium-like rays emitted in great numbers	nuo radiacijos spindulių , kurių labai daug išsiskyrė	02:12:09- 02:12:11	Shorter near-synonym expression or equivalent	Physics	Literal translation
355.	MORRISON at the moment of the explosion .	per patį sprogimą .	02:12:12- 02:12:13	Shorter near-synonym expression or equivalent	Physics	Literal translation
356.	TELLER A British physicist saying the atomic bombings	Britų fizikas sako, kad atominė bomba	02:12:16- 02:12:18	-	Physics	Literal translation
357.	OPPENHEIMER Which physicist ?	Kuris fizikas ?	02:12:23- 02:12:24	-	Physics	Literal translation

358.	TELLER Urge them to continue my research on the Super .	Paragink juos tęst mano “ Super ” tyrimą.	02:12:42-02:12:44	-	Physics	Literal translation
359.	TELLER Sphinx-like guru of the atom .	Atomo guru-sfinksas.	02:12:54-02:12:55	-	Physics	Faithful translation
360.	OPPENHEIMER If atomic weapons are to be added to the arsenals of a warring world ...	Jei atominiai ginklai papildys/kariaujančio pasaulio arsenalus,	02:13:18-02:13:20	Shorter near-synonym expression or equivalent	Physics	Literal translation
361.	STRAUSS ...you do this at the AEC .	o tu tą patį padarysi AEK .	02:15:45-02:15:46	Shorter near-synonym expression or equivalent	Physics	Literal translation
362.	STRAUSS Hoover sends them to the AEC ... You’re forced to act.	Huveris persiųs juos AEK ./ Būsi priverstas veikt.	02:16:22-02:16:24	-	Physics	Literal translation
363.	VOLPE As AEC Counsel, I can’t represent you.	Kaip AEK patarėjas negaliu tau atstovaut.	02:19:07-02:19:09	-	Physics	Literal translation
364.	RABI I’m Chairman of the General Advisory Committee to the AEC .	Aš AEK generalinio/konsultacinio komiteto pirmininkas.	02:21:30-02:21:32	-	Physics	Literal translation
365.	ROBB After the Russian A-bomb test did Dr Lawrence come to see you	Ar po rusų atominės bombos bandymo/daktaras Lorencas atėjo pas jus	02:22:24-02:22:27	-	Physics	Communicative translation
366.	ROBB about the hydrogen	dėl vandenilinės bombos ?	02:22:27-02:22:28	-	Physics	Literal translation

	bomb?					
367.	GRAY Would you say Dr Oppenheimer was unalterably opposed to the H-bomb ?	Ar galit pasakyt, kad dr. Openheimeris/ buvo kategoriškai prieš H-bombą ?	02:22:31-02:22:34	-	Physics	Faithful translation
368.	RABI No. He thought a fusion programme	Ne. Jis manė, kad sintezės programa	02:22:36-02:22:38	-	Physics	Literal translation
369.	RABI would come at the expense of our awfully good fission programme.	pakenks mūsų/ baisiai sėkmingai skilimo programai.	02:22:40-02:22:42	Shorter near-synonym expression or equivalent	Physics	Faithful translation
370.	RABI We have an A-bomb and a whole series of it,	Turim A-bombą . Visą jų seriją.	02:23:00-02:23:02	Division of long/compound sentences	Physics	Faithful translation
371.	RABI We have a whole series of Super bombs .	Turim seriją superbombų .	02:23:03-02:23:05	Shorter near-synonym expression or equivalent	Physics	Literal translation
372.	ROBB ...with anybody connected with the Atomic Energy Commission ?	su kuo nors, susijusiu/ su Atominės energijos komisija ?	02:24:05-02:24:07	-	Physics	Literal translation
373.	GARRISON I'm sorry, Robert. BORDEN ... atomic energy , intelligence,	-Atsiprašau, Robertai./ -“... atominės energijos , žvalgybos	02:25:45-02:25:47	-	Physics	Literal translation
374.	BUSH ...on the shipments of isotopes to Norway,	dėl izotopų siuntimo į Norvegiją.	02:27:54-02:27:56	Shorter near-synonym expression or	Physics	Literal translation

				equivalent		
375.	BUSH ...how the H-bomb would contribute to national security.	H-bombos naudos nacionaliniam saugumui.	02:28:04-02:28:06	-	Physics	Faithful translation
376.	ROBB Under current AEC guidelines,	Pagal dabartinius AEK nuostatus...	02:29:29-02:29:30	-	Physics	Literal translation
377.	GROVES Under my interpretation of the Atomic Energy Act ,	Pagal tai, kaip interpretuoju/ Atominės energijos aktą,	02:29:41-02:29:43	-	Physics	Literal translation
378.	OPPENHEIMER We've walked through fire together.	Kartu ėjom per ugnį .	02:30:58-02:31:00	Shorter near-synonym expression or equivalent	Chemistry	Literal translation
379.	ROBB Doctor, in your work on the Hydrogen bomb	Ar dirbant prie vandenilinės bombos	02:36:06-02:36:07	Omission	Physics	Literal translation
380.	OPPENHEIMER Yes, because this was work of exploration. It was not the preparation of a weapon .	Taip. Nes tai buvo tyrėjo darbas, ne ginklo konstravimas.	02:36:16-02:36:19	-	Physics	Literal translation
381.	OPPENHEIMER No. It's not an academic thing whether you can make a Hydrogen bomb .	Ne. Galimybė sukonstruoti/ vandenilinę bombą - ne akademinis,	02:36:21-02:36:23	Merge of two or more phrases/sentences	Physics	Literal translation
382.	OPPENHEIMER It's a matter of life and death .	tai gyvybės ir mirties klausimas.	02:36:24-02:36:26	Merge of two or more phrases/sentences	Medicine	Literal translation

383.	ROBB ...the development of the H-bomb , didn't you?	vandenilinės bombos kūrimą, ar ne?	02:36:27-02:36:29	-	Physics	Literal translation
384.	ROBB ...that you opposed the development of the Hydrogen bomb ?	kad ėmėt aktyviai priešintis/ vandenilinės bombos kūrimui?	02:36:34-02:36:36	-	Physics	Literal translation
385.	OPPENHEIMER ...without regard to the balance between these weapons	neatsižvelgiant į balansą tarp šių ginklų	02:36:40-02:36:41	-	Physics	Literal translation
386.	OPPENHEIMER and atomic weapons as part of our arsenal.	ir atominių ginklų mūsų arsenale.	02:36:43-02:36:45	Shorter near-synonym expression or equivalent	Physics	Literal translation
387.	STRAUSS Oppenheimer wanted to own the atomic bomb . He wanted to be the man who moved the earth.	Openheimeris norėjo savo atominės bombos ./ Norėjo būt žmogum, pajudinusiu žemę.	02:36:53-02:36:56	Shorter near-synonym expression or equivalent	Physics	Literal translation
388.	STRAUSS He talks about putting the nuclear genie back in the bottle-	Jo kalba apie branduolinio / džino grąžinimą į butelį.	02:36:56-02:36:59	Shorter near-synonym expression or equivalent	Physics	Literal translation
389.	OPPENHEIMER We freely used the atomic bomb .	Mes nevaržomi panaudojom atominę bombą .	02:37:18-02:37:20	Shorter near-synonym expression or equivalent	Physics	Literal translation
390.	ROBB ... the drop of the atomic bomb on Japan?	kur Japonijoje numest bombą , ar ne?	02:37:22-02:37:24	Omission	Physics	Literal translation

391.	ROBB ...that the dropping of that atomic bomb on the target you had selected	kad numetus atominę bombą / ant jūsų parinkto taikinio,	02:37:26-02:37:28	-	Physics	Literal translation
392.	ROBB ...would kill or injure thousands of civilians, is that correct?	žus ar bus sužeisti / tūkstančiai civilių, ar ne?	02:37:29-02:37:31	Shorter near-synonym expression or equivalent	Physics	Literal translation
393.	ROBB How many were killed or injured ?	Kiek žuvo ar buvo sužeisti ?	02:37:35-02:37:37	-	Medicine	Literal translation
394.	ROBB Two hundred and twenty thousand dead ? At least? OPPENHEIMER Yes.	-Mažiausiai 220 000 žuvusiųjų? -Taip.	02:37:49-02:37:51	Merge of two or more phrases/sentences	Physics	Literal translation
395.	ROBB Would you have supported the dropping of a Hydrogen bomb on Hiroshima?	Ar būtumėt pritaręs/ vandenilinei bombai Hirosimoj?	02:38:05-02:38:07	Shorter near-synonym expression or equivalent	Physics	Literal translation
396.	ROBB ...big enough for a thermonuclear weapon , would you have opposed dropping it?	tinkamas termobranduolinei bombai ./ Ar prieštarautumėt jos numetimui?	02:38:14-02:38:17	Division of long/compound sentences	Physics	Communicative translation
397.	ROBB Would you have opposed the dropping of a thermonuclear weapon	Būtumėt prieštaravęs/ termobranduolinei bombai prieš Japoniją	02:38:35-02:38:37	-	Physics	Literal translation

398.	ROBB Did you oppose the dropping of the atom bomb on Hiroshima	Priešintotės atominei bombai į Hirosimą	02:38:39-02:38:41	-	Physics	Literal translation
399.	ROBB You mean having worked night and day for three years to build the bomb ,	Trejus metus dieną naktį kūrę bombą	02:38:51-02:38:53	Shorter near-synonym expression or equivalent	Physics	Literal translation
400.	ROBB You supported the dropping of the atom bomb on Japan.	Jūs rėmėt atominės bombos /numetimą ant Japonijos.	02:39:02-02:39:04	-	Physics	Literal translation
401.	ROBB You would have made the H-bomb too wouldn't you?	Būtumėt sukūręs ir H-bombą , ar ne?	02:39:13-02:39:14	Shorter near-synonym expression or equivalent	Physics	Faithful translation
402.	ROBB ... following the Soviet atomic test said that a Super bomb should never be built!	po sovietų atominio bandymo ,/teigiama, kad superbombos nevalia kurt.	02:39:20-02:39:23	Shorter near-synonym expression or equivalent	Physics	Literal translation
403.	OPPENHEIMER ...just as it had with the atomic bomb !	Kaip buvo ir su atomine bomba .	02:39:36-02:39:38	-	Physics	Literal translation
404.	ROBB 'Just as it had with the atomic bomb .' Exactly.	“ Kaip buvo ir su atomine bomba .” Taigi!	02:39:41-02:39:43	-	Physics	Literal translation
405.	GRAY ...develop with respect to the Hydrogen bomb ?	susijusių su vandeniline bomba ?	02:39:57-02:39:59	Shorter near-synonym expression or equivalent	Physics	Literal translation
406.	OPPENHEIMER ...that we would tend	kad panaudosim/ bet kokį ginklą , kurį turim.	02:40:09-02:40:11	-	Physics	Literal translation

	to use any weapon we had.					
407.	STRAUSS To be remembered for Trinity .	Kad būtų prisimenamas už Trejybės .	02:40:19-02:40:21	-	Physics	Literal translation
408.	STRAUSS ...together with your somewhat disturbing conduct in relation to the Hydrogen bomb ...	kartu su trikdančiu elgesiu vykdant/ vandenilinės bombos programą,	02:41:12-02:41:15	Shorter near-synonym expression or equivalent	Physics	Literal translation
409.	GRAY ... will be issued to the AEC in the coming days.	bus paskelbtas AEK artimiausiom dienom.	02:41:31-02:41:33	-	Physics	Literal translation
410.	KITTY Did you think if you let them tar and feather	Manei, jei leisisi/ išvoliojamas degute ir plunksnose,	02:43:00-02:43:02	-	Chemistry	Faithful translation
411.	OPPENHEIMER When I came to you with those calculations ?	Kai atėjau pas tave/ su tais skaičiavimais ...	02:46:00-02:46:02	Change of negations or questions into affirmative sentences or assertions or vice-versa	Mathematics	Literal translation
412.	OPPENHEIMER We were worried that we'd start a chain reaction	Manėm, kad galim/ pradėt grandininę reakciją ,	02:46:04-02:46:06	Shorter near-synonym expression or equivalent	Chemistry	Literal translation
413.	OPPENHEIMER ...that would destroy the entire world ...	kuri sunaikins visą pasaulį .	02:46:07-02:46:09	-	Astronomy	Literal translation

Appendix 2. Terms detected in feature film *Tesla*.

No.	Source Language	Lithuanian subtitle	Time Code	Text Reduction Strategy	Branch of Science	Translation Mode
1.	NARRATOR A sheet of light crackling under his hand.	Po jo ranka sužibo šviesa .	00:01:01- 00:01:03	Shorter near-synonym expression or equivalent	Physics	Literal translation
3.	NARRATOR "is the same thing as the spark shooting" from Machek's back."	...tai tarsi žiežirbos nuo/ Mačakos nugaros.	00:01:11- 00:01:13	Changing direct speech into indirect	Chemistry	Literal translation
4.	Edison Machine Works , New York City	Edisono mašinių gamykla , Niujorkas	00:01:39- 00:01:42	-	Physics	Literal translation
6.	BACKGROUND Candles are in the cabinet?	Žvakės spintelėje, tiesa?	00:01:52- 00:01:54	-	Physics	Literal translation
7.	EDISON Had lit lanterns , called his name looking everywhere.	Jie degė žibintus , šaukė jo vardą/ ir visur ieškojo.	00:03:25- 00:03:27	-	Physics	Literal translation
8.	EDISON I saw George's head disappear in the water	kaip po vandeniui / pradingo Džordžo galva.	00:03:30- 00:03:32	-	Chemistry	Literal translation
9.	TESLA I'm finding my way at Edison's Machine Works ,	radau savo nišą/ Edisono mašinių gamykloj .	00:06:22- 00:06:24	Division of long/compound sentences	Physics	Literal translation
10.	TESLA He has no interest in my motor .	Jo nedomina mano motoras .	00:06:48- 00:06:50	-	Physics	Literal translation
11.	EDISON Alternating current is a waste of time.	Kintamoji srovė yra laiko švaistymas.	00:07:42- 00:07:44	-	Physics	Literal translation
13.	NARRATOR ...with a gift for languages and mathematics .	Bet įgudęs kalboms ir matematikai .	00:09:05- 00:09:07	Division of long/compound sentences	Mathematics	Literal translation
15.	NARRATOR ... he sees in a flash, in a vision the motor that will be	jis įsivaizdavo variklį ,	00:09:17- 00:09:21	Shorter near-synonym expression or	Physics	Literal translation

				equivalent		
16.	NARRATOR ...his first revolutionary invention .	kuris taptų jo pirmuoju/ revoliuciniu išradimu .	00:09:22- 00:09:24	Shorter near-synonym expression or equivalent	Physics	Literal translation
17.	EDISON Alternating current is a waste of time.	Kintamoji srovė yra laiko švaistymas.	00:09:27- 00:09:29	-	Physics	Literal translation
18.	NARRATOR Congestion of the brain was the official report,	Oficiali mirties priežastis -/ smegenų edema ,	00:10:32- 00:10:35	-	Medicine	Literal translation
19.	NARRATOR code for a Morphine overdose.	kuri ištiko perdozavus morfino .	00:10:35- 00:10:37	Shorter near-synonym expression or equivalent	Chemistry	Communicative translation
20.	NARRATOR ...and sets up the Tesla Lighting Company ,	ir įkuria kompaniją/ “ Tesla Lighting Company ”.	00:10:59- 00:11:02	-	Physics	Faithful translation
21.	NARRATOR ...digging trenches for cables ,	ir kasa duobes kabeliams .	00:11:11- 00:11:13	-	Physics	Literal translation
22.	NARRATOR phone lines for Western Union.	“Western Union” telefono linijoms .	00:11:14- 00:11:16	-	Physics	Literal translation
23.	TESLA They key is the motor rotates by virtue of induction	Svarbiausia, kad variklis/veiktų indukcinė jėga .	00:11:31- 00:11:33	Shorter near-synonym expression or equivalent, Division of long/compound sentences	Physics	Literal translation
24.	TESLA of rotating magnetic fields .	Rotacinis magnetinis laukas .	00:11:34- 00:11:36	Division of long/compound sentences	Physics	Literal translation
25.	TESLA I've eliminated the commutator	Išjungiau galios keitiklį ,	00:11:37- 00:11:38	-	Physics	Adaptation

26.	TESLA which distributes electricity to the rotor .	kuris teikia elektrą rotoriui .	00:11:38- 00:11:39	Shorter near-synonym expression or equivalent	Physics	Literal translation
27.	BROWN So you've eliminated the need for the commutator	Vadinasi, dabar nebereikia keitiklių ,	00:11:40- 00:11:42	Omission	Physics	Communicative translation
28.	BROWN and brushes the sparks . Amazing.	šepečių ir kibirkščių . Nuostabu!	00:11:42- 00:11:43	-	Chemistry	Literal translation
29.	TESLA There are no sparks . BROWN Is that so bad?	-Nėra jokių kibirkščių . -Ar jos blogos?	00:11:44- 00:11:45	Change in the subject of a sentence or phrase	Chemistry	Adaptation
30.	TESLA The magnetic field redirects the current .	Magnetinis laukas nukreipia srovę .	00:11:48- 00:11:49	Shorter near-synonym expression or equivalent	Physics	Literal translation
31.	TESLA I redesigned 24 different dynamos ,	Perkūriau 24 skirtingus generatorius	00:11:54- 00:11:56	Shorter near-synonym expression or equivalent	Physics	Communicative translation
32.	TESLA ...standard machines ,	ir paprastas mašinas .	00:11:59- 00:12:00	Shorter near-synonym expression or equivalent	Physics	Communicative translation
33.	TESLA ...replaced longer magnets with short coils ,	Ilgus magnetus pakeičiau/ trumpomis šerdimis .	00:12:02- 00:12:04	Division of long/compound sentences	Physics	Adaptation
34.	TESLA in alternating current , but of course you know...	kintama srovė , bet jūs tai žinot.	00:12:06- 00:12:07	Shorter near-synonym expression or equivalent	Physics	Literal translation
35.	BROWN I know, I'm an electrician . But he...	-Žinau, aš elektrikas , bet jis.../ -Advokatas.	00:12:09- 00:12:11	Merge of two or more	Physics	Literal translation

	PECK The lawyer...			phrases/sentences		
36.	TESLA This is more than just a motor .	Tai daugiau nei variklis .	00:12:13-00:12:14	-	Physics	Literal translation
37.	TESLA It is entire system for generating ,	Tai pilna sistema,/ skirta generavimui	00:12:15-00:12:18	-	Physics	Literal translation
38.	TESLA transmitting , and utilizing power .	perdavimui ir energijos panaudojimui .	00:12:19-00:12:21	-	Physics	Literal translation
39.	PECK and alternating current ...	O nekintama srovė...	00:12:38-00:12:38	-	Physics	Adaptation
40.	BROWN Fire is dangerous if you stick your hand in it.	Ugnis pavojinga tik tada,/ jei kiši prie jos pirštus.	00:12:42-00:12:44	-	Chemistry	Communicative translation
41.	TESLA Instead of a single coil , we use four.	Vietoj vienos ritės ,/ mes naudojame keturias,	00:14:44-00:14:47	Merge of two or more phrases/sentences	Physics	Literal translation
42.	TESLA Four coils around a laminated ring.	apvyniotas aplink laminuotą žiedą.	00:14:48-00:14:51	Merge of two or more phrases/sentences, Omission	Physics	Literal translation
43.	TESLA Two separate AC currents feed into the paired coils	Dvi skirtingos kintamos srovės / yra tiekiamos į rites	00:14:52-00:14:55	Shorter near-synonym expression or equivalent	Physics	Literal translation
44.	TESLA The currents are out of phase .	Srovės nesinchronizuotos.	00:14:58-00:14:58	Shorter near-synonym expression or equivalent	Physics	Literal translation
45.	TESLA This creates the rotating electrical field .	Tai sukuria besisukantį elektrinį lauką .	00:15:00-00:15:02	-	Physics	Literal translation
46.	TESLA	Jokių žiežirbų .	00:15:06-	-	Chemistry	Literal translation

	No sparks .		00:15:07			
47.	BROWN Edison has 121 power stations ...	Edisonas turi 121 elektrinę	00:15:38- 00:15:40	-	Physics	Literal translation
50.	TESLA That motor will do the work of the world .	Tas variklis pasaulyje/ darys stebuklus.	00:16:11- 00:16:13	Shorter near- synonym expression or equivalent	Physics	Adaptation
51.	PROFESSOR Its efficiency without question is equal	Jo efektyvumas neabejotinai prilygsta	00:17:01- 00:17:01	-	Physics	Literal translation
52.	PROFESSOR to the best direct current motor .	geriausiam tiesioginės srovės motorui .	00:17:02- 00:17:02	-	Physics	Literal translation
53.	PROFESSOR In terms of voltage potentials, it can have no match.	Pagal vatų potencialą, jam niekas neprilygsta.	00:17:05- 00:17:07	Shorter near- synonym expression or equivalent	Physics	Literal translation
54.	TESLA The best machine is the one with the fewest parts.	Geriausia mašina ta, kurioje mažiausiai dalių.	00:17:09- 00:17:11	-	Physics	Literal translation
55.	PROFESSOR You're not a member of the AIEE .	Jūs nepriklausote AIEE ...	00:17:17- 00:17:17	-	Physics	Faithful translation
56.	PROFESSOR Or the National Electric Light Association	JAV elektros inžinierių institutas.	00:17:20- 00:17:21	Division of long/compound sentences	Physics	Word-for-word translation
57.	PROFESSOR or the Electric Club of New York.	Arba elektros klubas Niujorke.	00:17:23- 00:17:24	Division of long/compound sentences	Physics	Word-for-word translation
58.	PROFESSOR You'll have to break it up into half a dozen separate inventions .	Reikia suskaidyti į atskirus išradimus .	00:17:44- 00:17:46	Shorter near- synonym expression or equivalent	Physics	Literal translation
59.	PROFESSOR Sit down and look at Mr. Tesla's	Sėskite ir apžiūrėkit Teslos variklį .	00:18:20- 00:18:21	-	Physics	Literal translation

	motor.					
60.	PROFESSOR He's eliminated the commutator and the sparks to go with it.	Jis panaikino anksčiau buvusį keitiklį ir/ žiežirbas .	00:18:46- 00:18:48	Shorter near- synonym expression or equivalent	Chemistry	Literal translation
61.	PROFESSOR My uncle likes machines more than people.	Mano dėdei labiau patinka/ mašinos nei žmonės.	00:18:50- 00:18:52	-	Physics	Literal translation
62.	TESLA We can see machines as an extension of people,	Mašinas matome kaip žmonių palikimą,	00:18:55- 00:18:56	Shorter near- synonym expression or equivalent	Physics	Communicative translation
63.	BROWN AND PECK No sparks .	Jokių kibirkščių .	00:19:04- 00:19:05	-	Chemistry	Literal translation
64.	MORGAN The new machines have something extra.	Naujosios mašinos turi/ kažko papildomai.	00:19:09- 00:19:11	-	Physics	Literal translation
65.	MORGAN ...when I turned on the light .	Ypač kai įjungiau šviesą .	00:19:15- 00:19:16	Division of long/compound sentences	Physics	Literal translation
66.	MORGAN Electric light .	Elektrinę šviesą .	00:19:16- 00:19:17	-	Physics	Literal translation
67.	MORGAN It was as though there was something in the current	Atrodė, kad kažkas buvo srovėje ,	00:19:18- 00:19:20	Shorter near- synonym expression or equivalent	Physics	Literal translation
68.	MORGAN ...and the light in the air .	šviesoje ir ore.	00:19:20- 00:19:21	-	Physics, Chemistry	Adaptation
69.	TESLA ...to a novel system of electrical transformation and distribution of energy	Tai elektros transformacijos / ir paskirstymo sistema ,	00:19:25- 00:19:27	Omission	Physics	Literal translation
70.	TESLA ...by means of alternate currents .	kuri veikia naudojant kintamą srovę .	00:19:58- 00:20:00	-	Physics	Communicative translation

71.	PROFESSOR The importance of maintaining the intensity of the all constant	Svarbiausia, išlaikant poliarinės/ konstantos aktyvumą yra tai,	00:20:26- 00:20:28	-	Physics	Literal translation
72.	BROWN He wants the motor , of course.	Žinoma, jis nori motoro .	00:20:48- 00:20:48	Manipulation of theme and rheme	Physics	Literal translation
73.	BROWN Plus \$2.50 per house power ,	Ir dar du su puse dolerio/ už arklio galią .	00:20:57- 00:20:58	-	Physics	Adaptation
74.	BROWN ...for each motor reinstalled.	Už kiekvieną variklį ,/ kurį įdiegsime.	00:21:01- 00:21:02	-	Physics	Literal translation
75.	NARRATOR Royalties for every motor sold assure Tesla	-	-	-	Physics	-
76.	WESTINGHOUSE Anyway, Harold P. Brown has bought some of our machines on the sly	Haroldas P. Braunas/ slapta nusipirko mūsų mašinų .	00:22:36- 00:22:38	Shorter near- synonym expression or equivalent	Physics	Literal translation
77.	WESTINGHOUSE ...and has Westinghouse, that's what he calls it	O dabar jas vadina "Vestinghaus".	00:22:39- 00:22:41	Shorter near- synonym expression or equivalent	Physics	Literal translation
78.	WESTINGHOUSE ...in the name of science is he zaps the dog with 14 hundred volts of direct current .	Moksliniais tikslais nukrato šunį/ 1400 voltų tiesiogine srove .	00:22:57- 00:22:59	Shorter near- synonym expression or equivalent	Physics	Literal translation
79.	WESTINGHOUSE with 400 to 800 of Westinghouse current .	su Vestinghauso energija / nuo 400 iki 800 voltų.	00:23:00- 00:23:02	-	Physics	Communicative translation
80.	WESTINGHOUSE He wants me to bring a machine and go to New York	Nori, kad nugabėčiau mašiną į Niujorką	00:23:38- 00:23:40	Generalisation of enumerations	Physics	Literal translation
81.	WESTINGHOUSE and expose myself to electric shocks ,	ir, kad į mane trenktų elektros šokas .	00:23:41- 00:23:43	Shorter near- synonym expression or	Physics	Literal translation

				equivalent		
82.	WESTINGHOUSE ... alternating current , of course...	Kintamoji srovė , suprantama	00:23:43-00:23:44	Division of long/compound sentences	Physics	Literal translation
83.	WESTINGHOUSE ...while he receives direct current .	O jis gautų tiesioginę srovę .	00:23:46-00:23:48	Division of long/compound sentences	Physics	Word-for-word translation
84.	WESTINGHOUSE ...we shall commence with 100 volts .	Pradėsime nuo 100 voltų	00:23:49-00:23:51	Division of long/compound sentences	Physics	Literal translation
85.	WESTINGHOUSE ...and then increase by 50 volts ...	ir vis didinsime po 50 voltų ,	00:23:52-00:23:54	-	Physics	Literal translation
86.	WESTINGHOUSE Instead of hanging, there's a move to electrocute	Vietoj pakarimo,/ jie nori jį nukratyti elektra .	00:24:33-00:24:35	-	Physics	Literal translation
87.	WESTINGHOUSE ...using a Westinghouse machine .	ir naudoti Vestinghauso aparata .	00:24:41-00:24:42	-	Physics	Faithful translation
88.	WESTINGHOUSE AC versus DC .	Kintamoji prieš tiesioginę .	00:24:57-00:24:59	-	Physics	Communicative translation, Word-for-word translation
89.	EDISON Inventer.	-	-	-	Physics	-
90.	MAN ...to the subject of electricity ?	tyrinėdamas elektrą ?	00:25:56-00:25:57	Shorter near-synonym expression or equivalent	Physics	Literal translation
91.	MAN ...as inventor or electrician ?	kaip išradėjas arba elektrikas ?	00:26:03-00:26:04	-	Physics	Literal translation
92.	MAN ...the necessary strength of current ...	kiek reikia elektros ,	00:26:11-00:26:12	Shorter near-synonym expression or equivalent	Physics	Communicative translation

93.	MAN ...continuous or direct current and alternating current.	tarp kintamos ir tiesioginės srovės.	00:26:39-00:26:40	Shorter near-synonym expression or equivalent	Physics	Literal translation
93.	EDISON Direct current flows like water through a pipe.	Tiesioginė srovė teka/ kaip vanduo per vamzdį.	00:26:42-00:26:45	-	Physics, Chemistry	Literal translation, Word-for-word translation
94.	EDISON Alternating current is the same...	O kintamoji srovė atsirastų tada,	00:26:45-00:26:46	-	Physics	Communicative translation
95.	EDISON ...as if a body of water ...	jei tam pačiam vandeniui	00:26:48-00:26:49	-	Chemistry	Communicative translation
96.	EDISON Direct current is like a river flowing peacefully to the sea.	Tiesioginė srovė yra tarsi upė,/ kuri ramiai teka į jūrą.	00:26:58-00:27:00	-	Physics	Literal translation, Word-for-word translation
97.	EDISON Alternating current is like a current	O kintamoji srovė yra ta,	00:27:02-00:27:03	Usage of pronouns	Physics	Literal translation
98.	MAN Now have you measured the electrical resistance of human beings?	Ar matavote žmogaus/ atsparumą elektrai ?	00:27:09-00:27:11	-	Physics	Communicative translation
99.	MAN Can an artificial current be generated	Ar gali dirbtinė srovė būti sukurta	00:27:13-00:27:15	-	Physics	Literal translation
100.	MAN ...demonstrate at different resistance .	parodė skirtingus atsparumus .	00:27:46-00:27:48	-	Physics	Literal translation
101.	MAN ...the current will have unforeseen effect.	kad srovė sukels nenumatytas pasekmes.	00:27:54-00:27:56	-	Physics	Literal translation
102.	MAN Now what would the effect be on Kemmler if we were to apply the	Kaip srovė paveiktų Kemlerį,	00:27:58-00:28:00	Shorter near-synonym expression or	Physics	Communicative translation

	current			equivalent		
103.	MAN the current for five or six minutes, what will happen to Kemmler, will he not be carbonized ?	jei srovę leisime/ penkias ar šešias minutes? Ar jis neapdegs ?	00:28:08- 00:28:11	Usage of pronouns, Omission	Medicine	Literal translation
104.	EDISON No, he'd be mummified .	Ne, jis pavirs į mumiją .	00:28:13- 00:28:14	-	Medicine	Literal translation
105.	MAN Mr. Edison... EDISON Just 1,000 volts of one amp current	-Pone Edisonai... -Užtektų 1000 voltų iš vieno stiprintuvo ,	00:28:20- 00:28:22	Shorter near- synonym expression or equivalent	Physics	Literal translation
106.	EDISON ...to kill any man with the Westinghouse alternator .	kad nužudytumėt žmogų su/ Vestinghauso generatoriumi .	00:28:24- 00:28:26	-	Physics	Literal translation
107.	EDISON Westinghouse uses 2,000 more volts .	Vestinghausas naudoja/ 2000-iais voltų daugiau.	00:28:28- 00:28:30	-	Physics	Literal translation
108.	EDISON Suppose a man touches a wire in a wet place.	Įsivaizduokit, kad žmogus/ priliečia laidą šlapioje vietoje.	00:28:39- 00:28:41	-	Physics	Literal translation
109.	TESLA He's an inventor as well.	Jis irgi išradėjas .	00:29:19- 00:29:19	-	Physics	Literal translation
110.	SZIGETI ...for helping other inventors .	padėti kitiems išradėjams .	00:29:25- 00:29:27	-	Physics	Literal translation
111.	TESLA ...and drank infected water	O tada gėrė užterštą vandenį	00:30:13- 00:30:14	Division of long/compound sentences	Chemistry, Medicine	Literal translation
112.	MORGAN Do you consider my father a malignant force in the world ?	Ar manote, kad mano tėvas/ yra didysis pasaulio blogis?	00:30:45- 00:30:47	Shorter near- synonym expression or equivalent	Astronomy	Literal translation
113.	NARRATOR ...she was diagnosed with Tuberculosis and died.	-	-	-	Medicine	-

114.	NARRATOR He hired Thomas Edison to install electricity	-	-	-	Physics	-
115.	NARRATOR ...illuminated by Edison's light .	-	-	-	Physics	-
116.	NARRATOR ...for the perfect induction motor ,	-	-	-	Physics	-
117.	NARRATOR ...into the Edison General Electric Company.	-	-	-	Physics	-
118.	JOHNSON ...the nail penetrated the flesh on the first joint and blood trickled out on the arm of the chair.	-	-	-	Medicine	-
119.	JOHNSON They got the machine started up again,	Jie perkrovė aparata	00:38:08-00:38:09	Shorter near-synonym expression or equivalent	Physics	Communicative translation
120.	JOHNSON gave him another thousand volts .	ir pridėjo dar 1000 voltų .	00:38:10-00:38:11	-	Physics	Literal translation
121.	WOMAN They applied the current to the top of his head.	Jie tiekė srovę jam į galvą.	00:38:50-00:38:51	Shorter near-synonym expression or equivalent	Physics	Literal translation
122.	WOMAN Hair is not conductive .	Plaukai nepraleidžia elektros .	00:38:54-00:38:56	Shorter near-synonym expression or equivalent	Physics	Communicative translation
123.	EDISON They should put his hand in a jar of water .	Jis turėjo įdėti jo ranką į vandens dubenį.	00:38:56-00:38:58	Shorter near-synonym expression or equivalent	Chemistry	Literal translation
124.	MORGAN You think of people as machines , but you're wrong. They aren't.	Galvojat apie žmones, kaip apie mašinas ,/ bet taip nėra. Jūs klystat.	00:40:06-00:40:08	-	Physics	Word-for-word translation

125.	TESLA The universe is a machine .	Visata yra mašina.	00:40:10- 00:40:11	-	Astronomy, Physics	Literal translation
126.	MORGAN Westinghouse is installing hundreds of dynamos .	Vestinghausas įdiegs šimtus generatorių ,	00:41:58- 00:41:59	Shorter near- synonym expression or equivalent, Division of long/compound sentences	Physics	Literal translation
127.	MORGAN 250,000 light bulbs .	250 tūkstančių lempučių .	00:42:00- 00:42:01	-	Physics	Literal translation
128.	NARRATOR ...where the new Tesla Westinghouse machines provide power and illumination.	-	-	-	Physics	Literal translation
129.	NARRATOR The fair consumes three times more electricity ...	-	-	-	Physics	-
130.	NARRATOR ... alternating current is beautiful and safe.	kintama srovė yra graži... ir saugi.	00:43:14- 00:43:16	-	Physics	Literal translation
131.	EDISON 18,000 bulbs	18 tūkstančių lempučių	00:43:42- 00:43:42	-	Physics	Literal translation
132.	EDISON literally surrounded by 25 hundred different types of Edison lamps .	apsuptos 250 tūkstančių/ skirtingų Edisono lempučių .	00:43:43- 00:43:46	Shorter near- synonym expression or equivalent	Physics	Literal translation
133.	EDISON Edison dynamos , flat irons, sewing machine motors ,	Edisono generatoriai ,/ lygintuvai, siuvimo mašinos, motorai ,	00:43:57- 00:44:00	Shorter near- synonym expression or equivalent	Physics	Literal translation
134.	EDISON Kinetoscope , moving pictures.	Kineskopas . Judantys paveikslėliai.	00:44:09- 00:44:11	Division of long/compound sentences	Physics	Literal translation

135.	EDISON This entire World's Fair is lit and powered...	Visa pasaulio mugė yra apšviesta	00:44:21- 00:44:23	Generalisation of enumerations	Physics	Literal translation
136.	EDISON ...by alternating current .	kintama srove.	00:44:25- 00:44:27	-	Physics	Literal translation
137.	EDISON Westinghouse machines , your design.	Mašinos iš Vestinghauso./ Tavo dizainas.	00:44:27- 00:44:29	Division of long/compound sentences	Physics	Literal translation
138.	EDISON I was wrong about alternating current .	Klydau dėl kintamos srovės .	00:44:30- 00:44:31	-	Physics	Literal translation
139.	NARRATOR Edison never admitted he was wrong about alternating current .	-	-	-	Physics	-
140.	WESTINGHOUSE Westinghouse Electric is fighting for its life.	“Vestinghauso elektra ” kovoja už išlikimą	00:47:26- 00:47:28	-	Physics	Literal translation
141.	WESTINGHOUSE ...unless your contract, the horsepower clause...	nebent jūsų arklio galių / išlygos kontraktas	00:48:15- 00:48:17	-	Physics	Literal translation
142.	TESLA ...and the polyphase system finally?	O tada daugiafazė sistema pagaliau...	00:48:48- 00:48:49	Division of long/compound sentences	Physics	Literal translation
143.	WESTINGHOUSE The whole country is put on AC ,	Visa šalis naudos kintamą srovę .	00:48:52- 00:48:54	Division of long/compound sentences	Physics	Literal translation
144.	WESTINGHOUSE On your machines .	-	-	-	Physics	-
145.	TESLA Our machines .	Mūsų mašinas .	00:48:58- 00:48:58	-	Physics	Literal translation
146.	WESTINGHOUSE Your polyphase system .	Jūsų daugiafazė sistema .	00:48:59- 00:48:59	-	Physics	Literal translation
147.	TESLA (in French) I believe this looks like a sheet of paper burning in flames .	Lyg būtų deginamas popierius.	00:53:25- 00:53:26	Shorter near- synonym expression or	Physics	Literal translation

				equivalent		
148.	MORGAN (in French) He's the greatest inventor of all time.	Jis geriausias visų laikų išradėjas .	00:53:35-00:53:36	-	Physics	Literal translation
149.	JOHNSON The greatest inventor of the age.	Geriausias mūsų laikų išradėjas .	00:53:36-00:53:37	-	Physics	Literal translation
150.	EDISON And his machines outsell my machines .	Jo mašinos parduodamos geriau nei mano.	00:54:44-00:54:45	Shorter near-synonym expression or equivalent	Physics	Literal translation
151.	NARRATOR For the Niagara hydroelectric power plant ,	-	-	-	Physics	-
152.	NARRATOR Tesla designs completely new machines ,	-	-	-	Physics	-
153.	NARRATOR ...unprecedented generators ,	-	-	-	Physics	-
154.	NARRATOR Plus transformers, motors, transmission lines, turbines .	-	-	-	Physics	-
155.	NARRATOR Revolutionary in their power and range.	-	-	-	Physics	-
156.	NARRATOR He didn't invent alternating current .	-	-	-	Physics	-
157.	NARRATOR But his system makes it practical and possible to use...	-	-	-	Physics	-
158.	MORGAN His system had to be broken down into 40 fundamental patents.	Jo sistema turėjo būti suskaidyta/ į 40 pagrindinių patentų.	00:56:30-00:56:32	-	Physics	Literal translation
159.	MORGAN And now, already he has eight new patents for wireless energy .	Dabar jis turi aštuonis naujus/ patentus bevelei energijai .	00:56:54-00:56:57	-	Physics	Literal translation

160.	MORGAN Electromagnetic pulses...	Elektromagnetiniai pulsai	00:56:58- 00:56:58	-	Physics	Word-for-word translation
161.	MORGAN ...using high frequency waves .	su aukštų dažnių bangomis .	00:56:59- 00:57:01	Shorter near-synonym expression or equivalent	Physics	Literal translation
162.	MAN 2 A great inventor should never marry.	Didis išradėjas niekada neturėtų vesti.	00:57:18- 00:57:20	-	Physics	Literal translation
163.	TESLA My aim is to develop an entirely new system of communication	Mano tikslas yra sukurti/ visiškai naują ryšio sistemą	00:57:50- 00:57:52	-	Physics	Literal translation
164.	TESLA Electric symbols , voices, even photographs.	Elektros signalai ,/ balsai ir net nuotraukos,	00:57:57- 00:57:59	-	Physics	Literal translation
165.	MORGAN Well, you could load your wireless boat with a cargo of dynamite ,	Galėtum pripildyti savo belaidę valtį dinamitu .	00:58:01- 00:58:03	Shorter near-synonym expression or equivalent, Division of long/compound sentences	Chemistry	Literal translation
166.	MORGAN ...make it swim along and then explode the dynamite ...	Plukdyti, o tada susprogdinti .	00:58:06- 00:58:08	Shorter near-synonym expression or equivalent, Division of long/compound sentences	Physics	Literal translation
167.	TESLA ...it will transform the way the world works.	Tai pakeis pasaulio veikimą.	00:58:13- 00:58:15	Division of long/compound sentences	Astronomy	Literal translation
168.	MORGAN An entire system . I know.	Visą sistemą . Žinau.	00:58:16- 00:58:17	-	Physics	Literal translation
169.	TESLA	Oras . Aukštis. Žaibai.	00:58:47-	-	Chemistry	Literal translation

	Air. Altitude. Lighting storms.		00:58:49			
170.	TESLA My brain is only a receiver .	-	-	-	Physics	-
171.	TESLA In the universe , there is a core...	-	-	-	Astronomy	-
172.	NARRATOR He was synchronizing electricity in the sky and the earth	-	-	-	Physics, Astronomy	-
173.	NARRATOR with currents surging through his magnifying transmitter .	-	-	-	Physics	-
174.	NARRATOR A.K.A., a Tesla coil .	-	-	-	Physics	-
175.	TESLA ...who humbly assures us he doesn't know what electricity is.	-	-	-	Physics	-
176.	TESLA Every human being is an engine geared to the wheel work of the universe .	-	-	-	Physics	-
177.	RESIDENT You did that. The whole God damn generator is on fire .	Tai tavo kaltė. Generatorius dega.	01:07:03- 00:07:05	Shorter near- synonym expression or equivalent	Physics, Chemistry	Literal translation
178.	RESIDENT You threw a short on the line!	Sukėlei trumpą jungimą!	01:07:05- 01:07:06	Shorter near- synonym expression or equivalent	Physics	Communicative translation
179.	TESLA I set the earth an electrical resonance .	Aš aprūpinau žemę/ elektriniu rezonansu.	01:07:08- 01:07:09	-	Physics	Literal translation
180.	RESIDENT You blacked out the whole God damn town,	Per tave visas miestas be elektros.	01:07:10- 01:07:11	Shorter near- synonym expression or equivalent	Physics	Communicative translation
181.	RESIDENT	Sugadinai generatorių.	01:07:13-	Shorter near-	Physics	Literal translation

	You knocked out the generator .		01:07:14	synonym expression or equivalent		
182.	TESLA I sent electrons streaming into the earth	Leidau elektronams tekėti į žemę	01:07:16-01:07:17	Shorter near-synonym expression or equivalent	Physics	Literal translation
183.	TESLA at a rate of 150 oscillations per second,	150 tūkstančių virpesių per sekundę greičiu.	01:07:19-01:07:22	Shorter near-synonym expression or equivalent	Physics	Literal translation
184.	TESLA ...each pulsation a wavelength of 6,600 feet...	Kiekviena pulsacija yra dviejų kilometrų ilgio.	01:07:24-01:07:26	-	Physics	Communicative translation
185.	TESLA ...creating a stationary wave ...	ir sukuria nejudančią bangą .	01:07:31-01:07:33	-	Physics	Literal translation
186.	TESLA ...on the other side of the planet .	kitoje planetos pusėje.	01:07:35-01:07:37	-	Astronomy	Literal translation
187.	TESLA I will pay for a new generator .	Sumokėsiu už naują generatorių .	01:07:39-01:07:40	-	Physics	Literal translation
188.	TESLA ...that I may set the sky on fire .	jog galiu padegti dangų.	01:08:52-01:08:54	-	Physics	Literal translation
189.	TESLA ...pumping their lungs with the pure mountain air .	kurie pripildo plaučius/tyru kalnų oru .	01:09:29-01:09:31	-	Chemistry	Literal translation
190.	NARRATOR Energy creates energy .	Energija sukuria energiją .	01:12:25-01:12:27	-	Physics	Literal translation
191.	J.P. MORGAN Where you throw a stone and these lamps ...	Kai meti akmenį./O šios lempos ...	01:13:43-01:13:45	Division of long/compound sentences	Physics	Literal translation
192.	J.P. MORGAN ...the distance between your machines and these lamps .	koks atstumas tarp jūsų mašinų /ir šių lempų ?	01:13:50-01:13:52	Change of negations or questions into affirmative	Physics	Literal translation

				sentences or assertions		
193.	TESLA ...to take a common 300 horsepower oscillator	naudoti 300 arklio galių osciliatorių,	01:13:58-01:14:00	Shorter near-synonym expression or equivalent	Physics	Literal translation
194.	TESLA One need only place the receiving apparatus into the ground.	Tereikia žemėje pastatyti/ priėmimo aparatą.	01:14:08-01:14:10	Shorter near-synonym expression or equivalent	Physics	Literal translation
195.	TESLA Doesn't matter if the transmission is affected at a few miles	ar transmisija už kelių kilometrų,	01:14:12-01:14:14	Shorter near-synonym expression or equivalent	Physics	Literal translation
196.	TESLA The waves travel in all directions,	Bangos keliauja visomis kryptimis.	01:14:17-01:14:19	Division of long/compound sentences	Physics	Literal translation
197.	TESLA ...on the planet's opposite side.	kol iškyla kitoje planetos pusėje.	01:14:24-01:14:26	-	Astronomy	Literal translation
198.	J.P. MORGAN So transmitting messages to a receiving terminal,	Tai siųsdamas žinutes į priėmimo terminalą,	01:14:28-01:14:30	-	Physics	Literal translation
199.	NARRATOR Following the battle of the currents,	-	-	-	Physics	-
200.	NARRATOR Thomas Edison abandons his idea of electricity.	-	-	-	Physics	-
201.	TESLA Yes, Marconi sends his signal through the air	Taip, Markonis per orą siunčia signalus.	01:17:20-01:17:22	-	Chemistry	Literal translation
202.	TESLA distinct vibrations, even, not random.	Aiškias vibracijas, neatsitiktines.	01:19:00-01:19:01	Shorter near-synonym expression or equivalent	Physics	Literal translation

203.	TESLA ...who has ever heard the sound of one planet ...	išgirdęs, kaip viena planeta	01:19:45-01:19:47	Shorter near-synonym expression or equivalent	Physics	Literal translation
204.	TESLA What happens if your system succeeds?	Kas nutiks, jei tavo sistemai pasiseks?	01:19:54-01:19:56	-	Physics	Literal translation
205.	TESLA Who controls the distribution of power ?	Kas kontroliuoja energijos paskirstymą?	01:19:56-01:19:57	Shorter near-synonym expression or equivalent	Physics	Literal translation
206.	MORGAN Like air , right?	Tai lyg oras , ar ne?	01:20:01-01:20:02	-	Chemistry	Literal translation
207.	MORGAN ...that the way the world runs is determined...	kad pasaulis nėra nulemtas	01:20:12-01:20:14	Shorter near-synonym expression or equivalent	Astronomy	Literal translation
208.	MORGAN Power, energy.	-	-	-	Physics	-
209.	TESLA When this system is complete,	Kai sistema bus paruošta...	01:20:32-01:20:33	-	Physics	-
210.	TESLA ...simple machines ...	kelias paprastas mašinas	01:20:44-01:20:46	-	Physics	Literal translation
211.	TESLA ...and have light, heat , mode of power ,	o tada turėsime šviesą, šilumą/ ir varomąją energiją .	01:20:48-01:20:50	-	Physics	Literal translation
212.	TESLA ...to photograph thoughts.	Nufotografuoti mintis.	01:24:51-01:24:52	-	Physics	Literal translation
213.	TESLA ...transcribing electric impulses from the brain.	Elektrinių impulsų perrašymas iš smegenų.	01:24:54-01:24:56	Division of long/compound sentences	Physics	Word-for-word translation
214.	J.P. MORGAN ...the Milky Way to be muddy water ...	kad Paukščių takas yra purvinas vanduo ,	01:25:01-01:25:01	-	Astronomy, Chemistry	Literal translation

215.	J.P. MORGAN ...by the horror of the world .	pasaulio negandų.	01:25:20- 01:25:21	Shorter near-synonym expression or equivalent	Astronomy	Literal translation
216.	TESLA ...a new series of inventions ...	naują išradimų seriją.	01:25:35- 01:25:36	-	Physics	Literal translation
217.	TESLA ...of some microscopic particles ...	tai spindulys su mikroskopinėmis detalėmis	01:25:43- 01:25:44	-	Physics	Adaptation
218.	TESLA ...travelling at the speed of...	kurios keliauja greičiu ,	01:25:48- 01:25:49	-	Physics	Literal translation
219.	TESLA ...close to that of the speed of light .	artimu šviesai .	01:25:51- 01:25:52	Shorter near-synonym expression or equivalent	Physics	Literal translation
220.	TESLA Beam travels in a straight line trajectory	Spindulys keliauja tiesia linija,	01:26:08- 01:26:09	Shorter near-synonym expression or equivalent	Physics	Literal translation
221.	TESLA (singing) <i>Everybody wants to rule the world</i>	-	-	-	Astronomy	-
222.	TESLA (singing) <i>Everybody wants to rule the world</i>	-	-	-	Astronomy	-
223.	TESLA (singing) <i>Everybody wants to rule the world</i>	-	-	-	Astronomy	-
224.	TESLA (singing) <i>Everybody wants to rule the world</i>	-	-	-	Astronomy	-
225.	MORGAN On a sequence of numbers ,	Tik skaičių eilės,	01:30:03- 01:30:04	Shorter near-synonym expression or equivalent	Mathematics	Literal translation

226.	MORGAN ...maybe the world that we are living in...	O gal pasaulis , kuriame gyvename,	01:31:34- 01:31:35	Division of long/compound sentences	Astronomy	Literal translation
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