AMPLIFICATION TECHNIQUE ANALYSIS IN *THE CREATION OF UNIVERSE* BOOK TRANSLATED BY ARY NILANDARY

THESIS

Submitted as a Partial Fulfillment of the Requirement for the Undergraduate

Degree of English Language Education



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DEDICATION

This Thesis is dedicated to:

My beloved parents (H. Marhaban and Hj. Nurul Hidayati S.Ag.)

My best parent (Suraya)

My beloved sister (Firda Latifatu Qotrunnada)

My Almamater in the State Islamic Institute of Surakarta.

ΜΟΤΤΟ

Company of jinn and mankind, if you are able to pass beyond the regions of the heavens and the earth, then pass. You will not pass except by authority

[from Allah].

(Q.S Ar-Rahman: 33)

PRONOUNCEMENT

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I hereby sincerely state that the thesis entitled "AMPLIFICATION TECHNIQUE ANALYSIS IN *THE CREATION OF UNIVERSE* BOOK TRANSLATED BY ARY NILANDARY" in real masterpiece. The things out of my masterpiece in this thesis are signed by citation and reference in the bibliography.

If my thesis has proven direnpancies later. I am willing to take the academic sanctions in the form of repealing my thesis and academic degree.

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ACKNOWLEDGMENT

Alhamdulillah, all praise to Allah, the single power, the Lord of universe, for all blessings and mercies so the researcher was able to finish this thesis entitled "AMPLIFICATION TECHNIQUE ANALYSIS IN THE CREATION OF UNIVERSE BOOK TRANSLATED BY ARY NILANDARY". Peace be upon our prophet Muhammad SAW, the great leader and good inspiration of word revolution.

The researcher is sure that the thesis would not be completed without the helps, supports, and suggestion from several sides. Thus, the researcher would like to express his deepest thanks to all of those who helped, supported, and suggested him during the process of writing this thesis. This goes to:

- Prof. Dr. H. Mudhofir Abdullah, S.Ag., M.Pd, as the Rector of State Islamic Institute of Surakarta,
- Prof. Dr. Toto Suharto, S.Ag., M.Ag, as the Dean of Language and Culture Faculty of the State Islamic Institude of Surakarta,
- 3. Budiasih, S.Pd., M.Pd, as the Head of English Language Education of State of Islamic Institute of Surakarta.
- 4. Lilik Istiqomah, S.S., M.Hum., M.Pd, as the advisor who has given guidance, deeply attention, helps, advices, and corrections to revise the mistakes during the entire process of writing this thesis.
- All the honorable lecturers and officials employees of Language and Culture Faculty.
- 6. My Family (H. Marhaban and Hj. Nurul Hidayati S.Ag, my parents), (Suraya, my best parent), (Firda Latifatu Qotrunnada, my sisters), special thanks to all of you who gave your prayers, support and spirit for the researcher to finish this thesis.
- 7. My best friends (Eko Dalono S.Ag. and Syahlul Setiadi), who always support me.
- 8. My beloved dormitory (Kampung Inggris Solo).
- Big families of Hilarious class 2015 thank you for being my friends in happiness and sadness.

10. Thanks to IAIN Surakarta, English Language Education Community, Thanks for approving the researcher to study here.

The researcher realizes that this thesis is still far from being perfect, the researcher hopes that this thesis is useful for the researcher in particular and the readers in general.

Surakarta, February 27th 2020

The Researcher

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ABSTRACT

Muhammad Surya Adam. 2020. *Amplification Technique Analysis in "The Creation of Universe" book Translated by Ary Nilandary*. Thesis. English Language Education, Cultures and Languages Faculty. IAIN Surakarta.

Advisor : Lilik Istiqomah, S.S., M.Hum., M.Pd

Keyword : Translation, Amplification Technique, Translation Quality

This research was conducted to reveal amplification technique influence toward translation quality in the *Creation of Universe* translated by Ary Nilandary. The aims of this research are (1) to classify the types of amplification technique applied in *The Creation of Universe* translation book (2) to reveal the influence of amplification technique types toward the translation quality in the term of accuracy, acceptability and readability.

This is a descriptive qualitative research which indicates the purpose of the research which are to identify, describe, and analyze the amplification technique. The source of data of the research were the *Creation of Universe* and its translation book. The data was the sentences which contribute classification of amplification technique and the translation quality assessed by some raters explaining about the accuracy, acceptability, and readability. The method of data collection were content analysis, distributing questionnaire, and interviewing. Purposive sampling was applied in this research.

The research finding reveals that there were 149 data classified into four types: explicitation 109 (73,1%) data, addition 16 (10,7%), paraphrase 18 (12,0%) data, and footnotes 6 (4,0%) data. The amplification technique gave high influence in translation quality because 129 data (86,5%) were found accurate, 144 data (96,6%) were found acceptable, and 144 data (96,6%) were readable. There were no inaccurate, unacceptable and inaccurate data. The final analysis concluded the most dominant technique was explicitation. The second was paraphrase. The third was addition. The fourth were footnote. The amplification technique gave high influence in translation quality. Thus, it can be conclude that the translation quality of amplification technique is accurate, acceptable, and readable. This research is intended to bring benefits for translators in applying amplification technique, student's source information to improve skill, and further researchers in conducting related research.

ABSTRAK

Muhammad Surya Adam. 2020. Analisis Teknik Amplifikasi dalam Buku "Penciptaan Alam Semesta" Diterjemahkan oleh Ary Nilandary. Skripsi. Penddikan Bahasa Inggris, Fakultas Adab dan Bahasa. IAIN Surakarta.

Pembimbing : Lilik Istiqomah, S.S., M.Hum., M.Pd

Kata kunci : Terjemaham, Teknik Amplifikasi, Kualitas Terjemahan

Penelitian ini ditunjukkan untuk mengungkap pengaruh teknik amplifikasi terhadap kualitas terjemahan dalam buku *Penciptaan Alam semesta* yang diterjemahkan oleh Ary Nilandary. Tujuan dari penelitian ini adalah (1) untuk mengklasifikasikan jenis-jenis teknik amplifikasi yang diterapkan dalam buku terjemahan *Penciptaan Alam Semesta* (2) untuk mengetahui pengaruh dari teknik amplifikasi terhadap kualitas keakuratan, keberterimaan, dan keterbacaan terjemahan.

Penelitian ini menerapkan metode deskriptif kualitatif yang bertujuan untuk mengidentifikasi, menggambarkan, dan menganalisis teknik amplifikasi. Sumber data penelitian ini adalah buku *Penciptaan Alam Semesta* dan terjemahannya. Data yang digunakan adalah kalimat yang dikategorikan sebagai teknik amplifikasi dan kualitas terjemahan yang dinilai oleh beberapa dosen yang berkompeten untuk menilai akurasi, penerimaan, dan keterbacaan terjemahan. Metode pengumpulan data adalah *content analysis* yaitu dengan cara: menggunaan kuesioner, dan wawancara. Penelitian ini menerapkan pengambilan sampel purposive.

Hasil penelitian ini menunjukkan bahwa terdapat 149 data yang diklasifikasikan menjadi empat jenis data: eksplisitasi 109 (73,1%), penambahan 16 (10,7%), parafrase 18 (12,0%), dan catatan kaki 6 (4,0) %). Teknik amplifikasi memberikan pengaruh tinggi dalam kualitas terjemahan karena 129 data (86,5%) ditemukan akurat, 144 data (96,6%) ditemukan dapat diterima, dan 144 data (96,6%) mudah dibaca. Tidak ada data yang tidak akurat, tidak dapat diterima dan sulit dibaca. Teknik yang paling dominan adalah explicitation. Yang kedua adalah parafrase. Yang ketiga adalah tambahan. Yang keempat adalah catatan kaki. Teknik amplifikasi memberi pengaruh tinggi dalam kualitas terjemahan. Simpulan penelitian ini menunjukkan kualitas terjemahan dari teknik amplifikasi tergolong akurat, dapat diterima, dan dapat dibaca. Penelitian ini diharapkan sebagai rujukan untuk siswa dan penerjemah untuk menerapkan teknik amplifikasi dan sumber informasi, serta peneliti lebih lanjut dalam melakukan penelitian terkait.

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CHAPTER I

INTRODUCTION

This chapter consists of background of the study, problems identification, limitation of study, problems statement, purpose of study, benefits of the study and keywords.

A. Background of Study

Language as society communication reflects and describes cultures used by their accentor descending to their existed folks. Blonch and Trager (1942:5) explains that a language is a system of arbitrary vocal symbols by means of which a social group cooperates. In the same argument Istiqomah (2009:1) states "bahasa merupakan gambaran budaya dari masyarakat pengguna bahasa yang bersangkutan." Her statement explains that the Language is an example of a landscape background of a society who uses that language. Thus, they who are still alive use the language as a tool to interact and to socialize each other in a certain environment. Language is not always used as daily communication itself but also used as fiction or nonfiction literary works, education, reference book and technology development (Istiqomah, 2009:1). In line with that Rosita (2017: 139) also says "sources can be written like book whether it is fiction or nonfiction, newspaper, research report, literature, journal, etc."

The technology development brings new inventions or discoveries through worldwide, continents and countries. Rosita (2017:139) agrees that the development of knowledge by the fact of globalization is necessarily needed for a better future. Globaly, Information about technology and science are massive and can be studied and shared in order to achieve better education or modern civilization through various developing countries such as Indonesia, Afghanistan, Bangladesh and others (OECD, 2015). But in fact, they suffer obstacles in accepting new information by themself especially for student because of lacks in proper devices or technology occasionally in science. Setiawan, Innatesari, Sabtiawan and Sudarmin (2017:50) claims "An understanding of learning directing to the shaping of science literacy on students is apparently still lacking in Indonesia." Which means lead to a new challenge that have to be faced in order to have a better knowledge. It is approved by the Organization for Economic Co-operation and Development (OECD) data survey in 2015 which shows that Indonesia occupied the 39/39 country rank for male and 38/39 for female in science education. In conclusion Indonesia still has to try extremely to climb from its position for science improvement and technology development.

Science conducts a wide knowledge that teaches human to realize their existence and what their role to the universe where they live in it. Many people interest in science but plenty of them who do not. In order to get information about science Indonesian adopted various sources of knowledge from different palaces in this world. Rosita (2017:139) argues that Indonesia needs source for instance English source from outside, it means sources from other modern countries abroad. Although it will have new information, there is still lack mastery in foreign language such as English. Rosita (2017: 139) believes "not all people can understand other language and cultures as countries have grown closer and globalization has taken over." By the effect of having difficulties in understanding new information, she also says that because of many human languages exist we need a bridge line in order to understand and comprehend the other language which called translation (Rosita, 2017:139) Therefore the role of a translator will be used here and provide information from various languages changed into Indonesian language as a translation product.

A translation product must have a proper purpose to aim the target of the language. Suryawinata and Hariyanto (2003:13) states that translation as process of finding TL to be equivalent toward the SL utterance. They defines that both source text and target text must have equal meaning to make the reader unmissed the whole important message through translation created by translator. Rosita (2017: 139) mentions "imported book which is most written in English surely should be translated into Indonesian in a clear, accurate, and readable translation product." Not only have to transfer the meaning the translator also reform the language into a new culture related to the target language therefore the reader will feel familiar and understand the translated source without hard effort to think the meanings twice or more.

Furthermore, a translation product like reference book especially science book is not as easy as expected to be translated. There will be difficulties occurred during the translation process. Baker (1992:21-25) mentions that the problems can be difference between two cultures, the non-existent word in Target Language (TL), the semantically complex word, the different in meaning, the lack of superordinate, the lack of hyponym, the difference in physical perspective, the difference in expensive meaning, the difference form, the difference in purpose, and the loan word usage. The obstacles faced as mentioned above will give a hard work for a translator to transfer source language (SL) to target language (TL) and he/she will spend time to accomplish it. Then the translator should have a good consideration in deciding the translation technique in order to solve problems with equal solutions.

Various solutions can be applied to overcome the problems by using techniques such as an amplification technique. Molina and Albir (2002:510) purposes that amplification is to introduce details that are not formulated in souce Language (SL). One of the example is Ramadhan. The translator should add detail information about Ramadhan which is Muslim month of fasting. Therefore, the result can be *Ramadhan*, *Muslim month of fasting*. In addition, Molina and Albir (2002:511) also emphasis that amplification includes SCFA's (1958) explicitation, Margot's (1979) legitimate and illegitimate paraphrase, Newmark's (1988) explicative paraphrase, Delisle's (1993) addition, Delisle's (1993) periphrasis and paraphrase. The other form of amplification said by her is also the footnote. In a further case there will be advance obstacle in conducting amplification technique. Applying amplification technique is not as simple as imagine. Molina and Albir (2002:509) describes that a translator should master SL in order that there will be diversions in TL. Translator's decision to choose a particular word in applying amplification technique can also affect the result of translation. This can be seen in the example of the application technique in the table 1.1 Paraphrase Example.

Table 1.1 Paraphrase Example is an application of amplification technique used by the translator. She decided to extent the meaning of a clause

"with which **he interacts**" in SL into *dimana dia merupakan bagian di dalamnya* because the meaning of previous clause is far from specific thus she intended to give more information which describe that previous clause. Therefore, a translation product that has data reference and the form is longer-

Table 1.1 Paraphrase Example

- SL It is unlikely for a man to make his own way to the truth unless he asks himself the question "why?" about the extraordinary order and balance with which *he interact*.
- TL Tidak mungkin seseorang menemukan kebenaran kecuali dia bertanya kepada dirinya "mengapa?" mengenai keteraturan dan keseimbangan luar biasa di mana dia merupakan bagian di dalamnya (Adnan Octar : 2001)

than its original state is categorized as paraphrase by Molina's amplification technique theory. This is added by the translation decision to make the sentence much easier to be accepted by the reader without change its original meaning.

Although the product became understandable to reader the move before the translator decision of introducing a new information is not as easy to be expected. The translator has to master the target language and the source language even to comprehend the meaning between it, consider the culture of target language and for whom the product purpose to. Hence, this specific centered case research in amplification technique analysis revealed out the translator's decision in using explicitation, addition paraphrase and footnote. This research pointed out that amplification technique was an important study to maintain. Besides translating using amplification technique can be a difficult process. In conducting the research, the book entitled as *The Creation of Universe* was the source of the data.

The researcher choosed The Creation of Universe book because there were many amplification technique applications found in the source of the data and to avoid an overlapping research using some common text such as novel comic social reference book etc. This kinds of science book is proper in the Islamic institution like the researcher's university. Besides, the book was created by Adnan Octar or Harun Yahya who is very famous among continents and many reviews about his international creation especially science book. His creations also provide verse of Qur'an supporting every his discoveries and idea so it gives a good impact for Muslim religion occasionally for the researcher as an Islamic institute student. Then the book not only provides information but also teaches about human moral education and character building as their role in the universe. Furthermore being well-known author, his book is translated into many languages including Indonesian. A professional translator should also be chosen to distribute the book throughout Indonesia. It would have been fatal if the translator had incorrectly used amplification technique in translating the book. Hence, the researcher interested to study this issue entitled "AMPLIFICATION TECHNIQUE ANALYSIS IN THE CREATION OF UNIVERSE BOOK TRANSLATED BY ARY NILANDARY"

B. Identification of the Problem

Based on the background of the study above. The researcher found some problems. The problems were the way of the translator used amplification technique classification based on Molina and Albir theory and how did the translation affect the quality of its amplification technique in accuracy, acceptability and readability

C. Research Limitation

This research focused on the amplification technique in translating the English version into the Indonesian version of the book *The Creation of Universe*. This meaned that the other translation techniques were not included in this research. The data were only focused in the translation occurred in the book without the Qur'an verse translation inside it. The researcher did not include the Qur'an verse because it would need a specific centered technique and analysis focused in Holy book.

The translation quality was focused on accuracy, acceptability, and readability of the translation product. Accuracy means how accurate the original message is conveyed into the target text. Acceptability refers to how natural or acceptable the target text for the target reader is. Readability means how easily the translation can be understood by the target reader.

D. Problem Statement

Based on the research background stated above, the following problem statements are proposed:

- 1. What are the types of amplification technique used in the translation of *The Creation of Universe* book?
- 2. How do the types of amplification technique influence the translation quality in the translation of *The Creation of universe* book?

E. Research Objectives

The objectives of the research are:

- 1. To classify amplification technique applied in the translation of *The Creation of Universe* book.
- 2. To reveal the influence of amplification technique types toward the translation quality in the translation of *The Creation of Universe* book.

F. Research Benefit

It will be expected that this study will be beneficial for:

1. Translator

The finding in this study will be expected to be used as an input in translating a reference book-based text (English-Indonesian) in order to have better quality by applying the good amplification technique in translation process.

It will be expected that translators will be more sensitive in applying of situation; the choice to use explication, addition, paraphrase, or footnote; and even the choice to do not using amplification.

2. Student of English Department

The research will be expected to improve the ability of the English Department students in translating reference book to be qualified especially in terms of accuracy. Acceptability and readability by using amplification technique. This research will be also expected to help students of English department on their study on Molina and Albir's techniques of translation especially on the amplification technique.

3. Other researchers

This research will be expected to be able to provide any information in the field of translation, especially when they want to analyze other translation techniques in other research to find out how the amplification technique is applied in this book.

The researcher also suggests that other researchers conduct a research related to the other techniques stated by Molina and Albir (2012) for this book. This will be helpful to have thorough research on techniques of translation in this book.

G. Definition of Key Terms

1. Translation

Peter Newmark (1988: 5) states, "Translation is rendering the meaning of a text into another language in the way that the author intended". He claimes that the transferring meaning have to be analyzed and transformed properly from one language to another language.

2. Amplification Technique

Molina and Albir (2002: 510) states, "Amplification is used to introduce details that are not formulated in the source language." They explained that in some occasions the source language does not have the same acceptable meaning into target language. Therefore, the source language will be added extra details to make the meaning familiar to the target language.

3. Explicitation, Adition, Paraphrase and Footnote

Explicitation is to introduce information from the SL that is implicit from the context or situation (Vinay and Darbelnet in Erwanda, 2016:16). While Margot in Erwanda (2016:16) states illegitimate paraphrase makes SL items explicit in the TL. Delisle in Erwanda (2016:16) states that addition is to introduce unjustified stylistic elements and information that are not stimulated in the ST. Delisle in Erwanda (2016:16) defines paraphrase as the excessive use of paraphrase that complicates the TL without stylistic or rhetorical justification. Nida, in Erwanda (2016:16) states that footnotes is to add additional information about the historical and cultural context of the text in question.

4. Translation Quality, Accuracy Readability and Acceptability

Nababan (2012:49) states that Accuracy means how accurate the original message is conveyed into the target text. Acceptability refers to how natural or acceptable the target text for the target reader is. Readability means how easily the translation can be understood by the target reader.

CHAPTER II

REVIEW ON RELATED LITERATURE

This part discusses about the topic related matters which focus on several theories related to this research and conceptual framework of this research. In the literature review those are definition of translation, translation techniques, types of amplification, translation quality, *the creation of universe* book and review of related study.

A. Translation

Translation sources generally define a process in transferring meaning created by authors from their original language into another language which is aimed by translators. However, translation definition is farther developed in century by many experts that have certain propensity. Newmark (1988: 5) states that "Translation is rendering the meaning of a text into another language in the way that the author intended the text." Based on the quotation above, it can be said that when a translator translates source language texts into the target language text, s/he should be able to transfer the meaning as close as possible based on the author's intention. It is not allowed for a translator to make new meaning or messages because s/he will convey incorrect message to the readers.

Almost similar to Newmark, Machali (2000: 114) states that translation is a process of "recreating". It can be said that when a translator does her/his job, s/he recreates a product. Therefore, a translator must be careful in translating a text because s/he deals not only with the language grammar but also the language style. For example, when a translator translates an article, s/he cannot translate it into literature text or a text which contains slang language but it should be translated into an article, too. It is suitable to a statement of Brislin (1976: 15) "Every translation, accordingly, is an attempt to synchronize the syntactic, lexical, and stylistic systems governing different languages, a source language (SL) and a target language (TL)." Therefore, it can be said that translation also considers the style of text.

It should be known that every translator is impossible to produce a translation product perfectly since both languages have different system. Therefore, Brislin (1976: 15) uses the word of "to synchronize". That is why the translator should find correct equivalence for every single word when s/he translates a text. As stated before, translation considers three terms such as the syntactic, lexical, and stylistic systems. The syntactic system means the surface structure of the source language. The lexical system is the meaning of the source language. The stylistic system refers to the style of the source language. The three of them support each other because three of them determine the translation strategy carried out by the translator. The translator should decide the right strategy when s/he translates a text so the messages of the source language can be produced well into the target language.

B. Translation Techniques

Molina and Albir (2002:509-511) proposes18 techniques of translation. They are:

- 1. Adaptation. To make a replacement of SL cultural element with one from the target culture. This contributes to SCFA's adaptation and Margot's cultural equivalent. For example, "the warehousemaster...and often worked with only little supervision from the nearby **controleur**" is translated into *kepala gudang...dan seringkali beekerja hanya dengan sedikit pengawasan dari mandor terdekat*.
- 2. Amplification. To introduce detailed information which are not formed in the source language or to explicit information to the target language. This includes SCFA's explicitation, Delisle's addition, Margot's legitimate and illegitimate paraphrase, Newmark's explicative paraphrase and Delisle's periphrasis and paraphrase. Molina also mentions that Footnote also includes in amplification technique. The opposition of Amplification is reduction. For example, "but **they** all reached the conclusion" is translated into *orang dapat membayangkan bahwa mereka mencapai kesimpulan*.
- 3. Borrowing. To take a word or expression straight from another language. It can be pure borrowing (without any change). Pure borrowing corresponds to SCFA's borrowing. Naturalized borrowing corresponds to Newmark's naturalization technique. For example, "**resonance** expidits nuclear reactions" is translated into *resonasi mendorong reaksi nuklir*.

- 4. Calque. Literal translation of a foreign word or phrase; it can be lexical or structural. This technique is similar enough from literal translation only the distinct can be revealed in the SL structure which sustain uccure in TL this corresponds to SCFA's acceptation. For example, "they played upon the **expansionist desires**" is translated into *Mereka memanfaatkan nafsu expansionist*.
- 5. Compensation. To introduce a SL element of information or stylistic effect in another place in the TL because it cannot be reflected in the same place as in the SL. This corresponds to SCFA's conception. For example, a pair of glasses" is translated into *sebuah kacamata*.
- 6. Description. To replace a term or expression with a description of its form or/and function. For example, "Wahhabi, that is, ridding local Islamic practice of **pagan accretions**".is translated into *Wahabi, yaitu mengendalikan amalan Islam setempat dari khurafat paganisme (yang berhubungan dengan kepercayaan primitif yang menyembah roh atau kekuatan gaib)*.
- Discursive creation. To establish a temporary equivalence that is totally unpredictable out of context. Commonly the technique is used in translating titles. This coincides with Delisle's proposal. For example,
 "The Casual Vacancy" is translated into *Perebutan Kursi Kosong*.
- 8. Established equivalent. To use a term or expression recognized (by dictionaries or language in use) as an equivalent in the TL. This corresponds to SCFA's equivalence and literal translation. For example, "sincerely yours" is translated into *hormat kami*.

- Generalization. To use a more general or neutral term. This coincides with SCFA's acceptation. It is in opposition to particularization. For example, "record" is translated into *laporan*.
- 10. Linguistic amplification. To add linguistic elements. This is often used in consecutive interpreting and dubbing. It is in opposition to linguistic compression. For example:

ST: A: "Are you Rey?"
B: "Yes."
TT: A: "Apa kamu Rey?"
B: "Ya, saya Rey."

11. Linguistic compression. To synthesize linguistic elements in the TL. This is often used in simultaneous interpreting and in sub-titling. It is in opposition to linguistic amplification. For example:

ST: A: "Are you Ana?"
B: "Yes, I am Ana."
TT: A: "Apa kamu Ana?"
B: "Ya."

12. Literal translation. To translate a word or an expression word for word. In contrast to the SCFA definition, it does not mean translating one word for another. Our literal translation corresponds to Nida's formal equivalent. It is the same as SCFA''s literal translation. For example, "cofession is good for the soul" is translated into *pengakuan itu baik bagi jiwa*.

- 13. Modulation. To change the point of view, focus or cognitive category in relation to the ST; it can be lexical or structural. This coincides with SCFA's acceptation. "The rays will be lethal" is translated into *radiasi merusak klorofil*.
- 14. Particularization. To use a more precise or concrete term. This coincides with SCFA's acceptation. It is in opposition to generalization. For example, "geography" is translated into geografi bumi.
- 15. Reduction. To suppress a SL information item in the TL. This includes SCFA's and Delisle's implicitation Delisle's concision, and Vázquez Ayora's omission. It is in opposition to amplification. For example, "a long, thin piece of metal" is translated into *sebatang logam panjang*.
- 16. Substitution (linguistic, paralinguistic). To change linguistic elements for paralinguistic elements (intonation, gestures) or vice versa, e.g., to translate "the gesture of nodding a head" as ya. It is used above all in interpreting.
- 17. Transposition. To change a grammatical category. For example, "the universe **has a begining**" is translated into *Alam semesta diciptakan*.
- 18. Variation. To change linguistic or paralinguistic elements (intonation, gestures) that affect aspects of linguistic variation: changes of textual tone, style, social dialect, geographical dialect, etc. For example, "does *the theory understandable?*" is translated into *paham teorinya*, *kah*? (Papuan dialect).

C. Types of Amplification

Amplification is one of eighteen translation techniques proposed by Molina and Albir. Molina and Albir (2002:510) state that Amplification is used to introduce details that are not formulated in the SL. Amplification includes SCFA's explicitation, Delisle's addition, Margot's legitimate and illegitimate paraphrase, Newmark's explicative paraphrase, Delisle's periphrasis and paraphrase. Footnote is also included (Molina and Albir, 2002:510). Molina and Albir defines Types of Amplification as below:

 Explicitation. Vinay and Darbelnet, in *Stylistique comparée du français et de l'anglais SCFA* (1958:451-452) say that explicitation is to introduce information from the SL that is implicit from the context or the situation, e.g., to make explicit patient's gender when translating "his *patient*" *into* French. The Margot's illegitimate paraphrase makes SL items explicit in the TL.

Example:

- SL: She darted out to porch to hang up her things
- TL: *Ruth* bergegas ke beranda untuk menggantung mantel dan syal (The Casual Vacancy by Erwanda, 2016)
- SL: Examining the universe, scientists supposed that **it** was just a conglomeration of matter and imagined that it had no beginning.
- TL: Dalam mengkaji alam semesta, ilmuwan berang-gapan bahwa **jagat raya** hanyalah akumulasi materi dan tidak mem-punyai awal.
- SL: The numbers defining the order and plan of the universe's equilibrium play a crucial role exceed **comprehension**.
- TL: Angka-angka yang menentukan rancangan dan rencana keseimbangan alam semesta memainkan peran penting dan melampaui pemahaman **manusia**.

Addition. To introduce unjustified stylistic elements and information that are not formulated in the ST Delisle (1993:484-488). Ardi (2010:80) explains that this technique is an additional information which is not occurred in the SL (explicitly nor implicitly). It is a pure explanation added by translator that has no reference in SL.

Example:

- SL: A minute passed, full of nothing but soft slurps.
- TL: Beberapa saat hening, hanya ditingkahi **denting sendok** dan hirupan lembut.

(The Casual Vacancy by Erwanda, 2016)

- SL: The only rational answer to that question is that it is proof of (add) Creation and cannot possibly be accidental.
- TL: Satu-satunya jawaban rasional untuk pertanyaan itu adalah bahwa keseimbangan itu merupakan bukti rancangan **sadar** dan tidak mungkin ketidaksengajaan.
- SL: one with the very delicate balance needed to provide exactly the conditions required to permit life, and one which has underlying plan. (**add**) The scientists we have just quoted...
- TL: alam semesta dengan keseimbangan sangat rumit yang diperlukan untuk menyediakan kondisi tepat bagi kehidupan, dan alam semesta yang mempunyai rencana dasar (**bisa dikatakan "super-nasional"**). Ilmuwan-ilmuwan yang baru saja dikutip...
- 3. Paraphrase. Delisle (1993:484-488) defines paraphrase as the excessive use of paraphrase that complicates the TL without stylistic or rhetorical justification. Margot's legitimate paraphrase (1979) is a lexical change that makes the TL longer than the SL but does not

change the meaning. This technique is an extension of a located

information in SL which is written longer in TL based the context

and its reference to make the text understandable to the reader.

Example:

SL: Because we're not supporting you through any resists, pal.

TL: Karena kami tak akan membiayai kalau kamu terus mengulang, Bung.

(The Casual Vacancy by Erwanda, 2016)

- SL: This philosophy survived in different forms during Roman times but in the Late Roman Empire and **after** materialism went into decline
- TL: Filsafat ini bertahan dalam bentuk-bentuk berbeda selama zaman Romawi, namun pada akhir kekaisaran Romawi dan Abad Pertengahan, materialisme mulai mengalami kemunduran
- SL: It was neither localized nor did it have a definite source; instead, it was distributed equally **everywhere**.
- TL: Radiasi ini tidak dibatasi, juga tidak mempunyai sumber tertentu; alih-alih, radiasi ini tersebar merata **di seluruh jagat raya.**
- 4. Footnotes. It is defined as another adjustment technique and points out that they have two main functions: 1) To correct linguistic and cultural differences, e.g., to explain contradictory customs, to identify unknown geographical or physical items, to give equivalents for weights and measures, to explain word play, to add information about proper names, etc.; 2) To add additional information about the historical and cultural context of the text in question. (Nida, 1964). The footnote location is obvious which has number mark or special character. Footnote is commonly appear below of the main text or sometimes all allocated in the end of book.

Example:

- SL: When we look at this part of the light we see that a large part of solar radiation falling outside the range of visible light is in the section of the spectrum called "**near infrared**".⁶⁸
- TL: Ketika kita mengamati bagian cahaya ini, kita mendapati bahwa sebagian besar radiasi matahari yang jatuh di luar rentang cahaya tampak berada pada bagian spektrum yang disebut "inframerah-dekat".⁶⁸
 - ⁶⁸) Selang Inframerah dekat meliputi sinar dengan panjang gelombang 0,70 mikron, di mana cahaya tampak berakhir, hingga 1,50 mikron.
- SL: the ultraviolet light concentrated in such a **miniscule band** ⁶⁹ is needed for the synthesis of vitamin D in humans and other vertebrates.
- TL: Sinar ultraviolet yang berada pada **pita** begitu **sempit** ini diperlukan u-ntuk pembentukan vitamin D pada manusia dan binatang bertulang bela-kang.
 - ⁶⁹) **Selang** yang **sempit** ini meliputi sinar ultraviolet antara 0,29 mikron sampai 0,32 mikron.

D. Translation Quality

Translation purposes to produce a product which can be understood easily by readers. A translation must be able to transfer the message of SL into TL properly so that it can bring a good understanding to the readers. To make the readers understand, a translation must fulfill a good quality.

Newmark (1988:184) says that translation quality assessment is very important since it becomes a significant link between translation theory and its practice Meanwhile, Nababan (2003:86) explains that translation quality assessment is focused on three main things: the accuracy of transferring message, the clearness of expressing the message into the target language and the language naturalness of the translation. Similarly, Larson (1984:3) states that a translation is considered good if it covers three criteria are accurate (accuracy), natural (acceptability), and clear (readability).

1. Accuracy

Accuracy is one of the factors that determine the quality of translation. The accuracy of the message is an important aim in translation (Baker, 1992:57). Shuttleworth and Cowie (1997:63) define accuracy as a term used in translation equivalence to refer to the extent to which a translation matches its original. In other word accuracy means that the content message of source language is transferred into the target language correctly.

Shuttleworth and Cowie (1997: 3) state as follows:

Accuracy is a term used in translation evaluation to refer to the extent to which a translation matches its original. While it is usually refers to preservation of the information content of SL in TL, with an accurate translation being generally literal then free, its actual meaning in the content of a given translation must depend on the type of equivalence.

Beti (2007:20) explains that the accuracy includes whether the content of the source language is translated accurately into the target language or not and whether there is an addition or deletion in the translation. The translator may not add or delete the text being transferred. TL must have the same message as SL has. Addition and deletion may be chosen as one of the techniques to find the equivalence in TL.

Basically the preservation of meaning is a very important aspect in determining quality of translation. Also, the meaning covering becomes

the main factor that needs to be paid attention. It should clearly convey the meaning. In other words, there will be no ambiguity and there is no chance of misinterpreting on target readers.

In conclusion, a translation is considered to be accurate if it conveys the meaning of the source text into the target text correctly without seeing the way of translator transfers the message to the target text. Therefore, accuracy is a kind of source text oriented approach to translation.

2. Acceptability

Acceptability is another important factor that determines the quality of translation. It refers to the natural "feel" of the translation. A translation which leans toward acceptability can thus be thought as fulfilling the requirement of "reading as an original" that is written in the target language rather than that of "reading as the original" (Shuttleworth and Cowie, 1997: 103). Acceptability deals with the language naturalness of the translation which is compatible with the target language system (Beti, 2007:21). As stated by Finlay, translation should give the sense of the original in such a way that the reader is unaware that he/she is reading a translation in Wuryantoro (2005:131).

Therefore, the translator needs to observe the norms of the source language and the target system before translating the text. The translated text will be considered available if it is read as original written in target language and it sounds natural for the target readers. In contrast with accuracy, acceptability is a kind of target text oriented approach in translation (Suryawinata, 2003:40-43).

3. Readability

Basically readability refers to how easily a text can be read and understood. Nababan (2012: 49) states: "Tingkat keterbacaan teks terjemahan merujuk pada derajat kemudahan teks terjemahan untuk dipahami oleh pembaca sasaran." Since a translation is purposed for target readers, the message being transferred must be understandable to them. The translator should be able to compose the meaning in a familiar pattern in TL so that the message is successfully delivered.

The questionnaire was used to find out the translation quality of the Indonesian version of the book. There were two types of questionnaire namely the open-ended and close-ended questions. In open-ended question, raters were free to express their answers, while in the close-ended question raters or peer debriefing were given the optional question. There were three research instruments in the questionnaire to find out the translation quality, Table 2.1 (the accuracy), Table 2.2 (the acceptability), and Table 2.3 (the readability) adopted from (Nababan, 2012:50). Table 2.1, Table 2.2 and 2.3 were used for raters and peer debriefing. Interview was also conducted to get clarification from the raters to get unclear information.

Scale	Category	Qualitative Definition		
3	Accurate	The translation as a result of the application of amplification		
		technique accurately represents the meaning or message of		
		original version.		
2	Less Accurate	The translation as a result of the application of amplification		
		technique less accurately represents the meaning or message		
		of original version.		
1	Inaccurate	The translation as a result of the application of amplification		
		technique inaccurately represents the meaning or message of		
		original version.		

Table 2.1 Accuracy-rating instrument

Table 2.2 Acceptability-rating instrument

Scale	Category	Qualitative Definition		
3	Acceptable	The translation as a result of the application of amplification		
		technique is acceptable culturally, grammatically, and		
		contextually in target language.		
2	Less Acceptable	The translation as a result of the application of amplificatio		
		technique is less acceptable culturally, grammatically, and		
		contextually in target language.		
1	Unacceptable	The translation as a result of the application of amplification		
		technique is unacceptable culturally, grammatically, and		
		contextually in target language.		

Scale	Category	Qualitative Definition	
3	Readable	Words, technical terms, phrases, clauses, sentences, or translated	
		texts can be easily understood by the reader	
2	Less Readable	Commonly the translation can be understood by the reader but	
		there are certain parts that must be read more than once to	
		understand the translation	
1	Unreadable	For the reader, the translation is difficult to be understood	

Table 2.3 Readability-rating instrument

F. The Creation of Universe Book

The *Penciptaan Alam Semesta* book was a translation product which was translated from the English translation book entitled *The Creation of Universe* created by Adnan Octar or his famous name called as Harun Yahya. He has published many books on critical, faith-related and scientific issues. His works disclosing the imposture of evolution, the invalidity of their claims and the dark liaisons between Darwinism and bloody ideologies such as fascism and communism. *The Creation of Universe* book was first publish in 2000 by Ta-Ha Publisher 1.td. While the Indonesian version was published by Dzikra publisher in 2003.

The Indonesian version contains of 174 but the English version has 208 pages which include 8 chapters. These chapters discuse about: 1) *The Creation of The Universe from Nothingness* (Penciptaan Alam Semesta dari Ketiadaan), 2) *The Equilibrium in The Explosion* (Keseimbangan dalam Ledakan), 3) *The Rhythm of The Atoms* (Irama Atom), 4) *The Order in The Skies* (Keteraturan di Langit), 5) *The Blue Planet* (Planet Biru), 6) *The Signs of Creation in Light* (Rancangan pada Cahaya), 7) *The Signs of Creation in Water* (Rancangan pada Air), and the last 8) *The Specially-Created Elements of Life* (Unsur-Unsur Kehidupan yang Dirancang Khusus).

G. Review of Related Study

The First previous study of this research was conducted by Ryan Erwanda (2016) (Sebelas Maret University) entitled "The Translation Quality of Amplification Technique of The Novel Entitled the Casual Vacancy" The Result Finding of his research presented there were 406 data of amplification dominated by of 323 (79, 5%) data of explicitation. Then the impact on the translation quality was good. The difference between this research and this first study is that the previous study analyzed a novel while this research analyzed a reference science book and the research limitation in noun and noun phrase only then other data than noun or noun phrase were not used while this research uses word, phrase, sentence and clause contained in paragraphs/sentences the second dsitinct was this study explained detail in explicitation which sparated into two categories which was not described in the first previous study. The similarity between this research and previous study was both used the similar theory which was based on Molina and Albir (2002) and both of these used specifically centered in amplification technique only followed by its translation quality. Related by the previous researcher, his research has never been conducted before and this research was different from previous researches (Erwanda, 2016:24).

The second previous study of this research is a thesis conducted by Havid Ardi (Sebelas Maret University) (2010) *entitled "Analisis Teknik Penerjemahan* dan Kualitas Terjemahan Buku Asal Usul Elite Minangkabau Modern: Respons terhadap Kolonial Belanda Abad ke XIX/XX". The research findings showed that there were 18 types of translation techniques from 731 techniques applied by the translator within 285 data. Based on their frequencies, the dominant techniques applied in the translation is amplification (16, 69%), the difference between this research and this second previous study are the technique from the second previous study uses overall technique by Molina and Albir (2002) which means this research more centered in single translation technique that is amplification technique. Beside the source of the data is difference based on: a historical book (second previous study) and a science reference book (this research). The similarity between previous study and this research is using the same theory and the result shows that amplification technique was dominant (16, 69%) than other techniques purposed by Molina and Albir.

The third previous study of this research is the national journal researched by Anam Sutopo (2015) (Muhammadiyah University of Surakarta) entitled "*Teknik Penerjemahan Naskah Pidato kenegaraan President Republik Indonesia Dari Bahasa Indonesia Kedalam Bahasa Ingris*". The results of the research show that first, there are 11 techniques of translation applied by the translator. The technique of translation applied by the translators is dominated by literal translation 263 data (38, 51%). The difference between this research and the third previous study is first, the transferring source language from Bahasa Indonesia into English while this research transfer language from English to Bahasa Indonesia. Second, the source of the data of the third previous study is different which a formal National presidential Speech declaration text. Third, the analysis uses all techniques occurred and uses single, couplet, triplet and quartet

technique which means there are combination of techniques used by the translator, furthermore there is no quality of the translation result. The similarity between this research and this third previous study is using the same theory of Molina and Albir (2002) and conducted discussion about amplification technique.

The fourth previous study is the international journal conducted from Zainuddin Hasibuan (2018) (Universitas Sumatra Utara) entitled "Study of Translation Quality and Techniques used in Translating Mandailing FolkloreAnak Na Dangol Ni Andung into English". The findings of the study revealed that the translator used different techniques for translating cultural terms such as- literal translation (34.8%), pure borrowing (23.9%), addition (15.2%), amplification (10.9%), description (6.5%), deletion (4.3%), amplification and reduction, both of them formed (2.2%) of the data. On the quality of the translation aspect, the results of this study indicate that 50% of the translation was assessed as accurate whereas 50% of the translation was found to be as less accurate. In terms of acceptability, 77.3% of the translation was acceptable whereas 22.7% was termed as less acceptable. On the aspect of readability, 86.4% was rated with high readability and 13.6% with medium readability. The difference between this research and the fourth previous study is the theory used to analyze the data was the combination of Newmark (1998) for translation techniques in cultural text and Molina Albir (2002). Besides the analysis is transferring language from Mandaling folklore into English text. The similarity between this research and the fourth previous study is on using theory of translation technique by Molina and Albir and Translation Quality is also conducted from the translation result.

CHAPTER III

RESEARCH METHOD

The purpose of this chapter is to discuss how the research is conducted. This chapter is broken down into some sub-heading including research design, data and source of the data, collection, analysis, and trustworthiness of the data.

A. Research Design

A descriptive qualitative approach was applied in this research in order to focus on describing the phenomenon of language. Specifically this research used a form of content analysis by the purpose to describe the truth meaning systematically. Cohen (2007: 494) mentions that "content analysis simply defines the process of summarizing and reporting written data – the main contents of data and their messages." This kind of research towards a specific and depth description about the portrait which is actual happening naturally in its field of study. A qualitative research tries to provide a truth subjective reality and does not make laws such as natural research (Istiqomah, 2009:48).

Creswell (2008: 98) claims that "in qualitative project, the author will describe a research problem that can best understood by exploring concept or phenomenon." A qualitative research purpose aims only collecting, managing, classifying, and interpreting the data in order to draw a conclusion towards phenomena or available event. Hasibuan (2018: 64) states that "the use of qualitative descriptive method aims to create a description, picture, or painting in systematic, factual and accurate information on the facts, nature and the

relationship between the phenomena investigated qualitatively." Thus the final conclusion received by the researcher from the qualitative research is only to reveal the condition of events or objects without drawing the conclusion which works generally. As mention above, this research only focuses in finding and gaining real descriptions about amplification techniques in translated reference book *The Creation of Universe*. Specifically, this research purposes to describe the classification of amplification technique and the translation impact toward the quality of the translated book of *The Creation of Universe*.

B. Data and Source of Data

Data of the research were the sentences which contribute classification of amplification technique and the translation quality assessed by some raters explaining about the accuracy, acceptability, and readability. The researcher also provided secondary data which contains translation quality rating from peer debriefings. The data were the amplification techniques used in the translation of *The Creation of Universe* book. There was source of data in this research which is the book *The Creation of Universe* written by Harun Yahya and its translation in Bahasa translated by Ary Nilandary. The researcher decided to take the reference book as the source of data because *The Creation of Universe* book contains four types of amplification technique as significant matter to analyze.

C. Data Collection

Based on the research design and the source of data stated above, the researcher used content analysis. The researcher collected the data as follow:1) the book *The Creation of Universe* and its translation in Bahasa was read 2). There were various types of amplification technique. They were explicitation

(109 data), addition (16 data), paraphrase (18 data), and footnotes (6 data). Any data which did not contain amplification technique were not included. Although the book itself contained some Qur'an translations, the researcher did not take another Qur'an translation data because that move required to provide the specific analysis through holy Qur'an verse.

D. Coding

To display the data distribution of amplification technique in the book, the researcher provided data classification to make the data clear to be analyzed and categorized.

Data Code		Quality	
	SL	The reason that some people cannot understand this point is their own prejudice.	
		But any objective mind (<i>Add</i>) without prejudice will easily understand	Accurate
78/SL-81/TL-69/Add	TL	Alasan mengapa sebagian orang tidak	Acceptable
		dapat memahami hal ini adalah prasangka	D 111

mereka sendiri. Namun pemikiran yang murni **berda-sarkan kenyataan** tanpa

dengan

mudah

dapat

Table 3.1 Addition Example

Data interpretation

78 : The number of data. It is datum number 78

prasangka

memahami...

- SL-81 : Sentence found in page 81 of the Source Language
- TL-69 : Sentence found in page 69 of the Target Language

Readable

Add : Addition. The addition *bedasarkan kenyataan* which means **"based on reality**" in English cannot be found in source language and its implicit meaning. Additionally the reference of word or phrase is not formulated in source language thus the datum example is categorized as an Addition.

E. Trustworthiness

1. Credibility

Credibility is defined as the confidence that can be place in the truth of the research findings (Holloway & Wheeler, 2002; Macnee & McCabe, 2008) in (Anney, 2014:276). There are prolonged engagement, Use of peer debriefing, Triangulation, Member, Checks Negative Case Analysis and Persistence Observation. In this research, the credibility used were data triangulation and peer debriefing. This research provided different triangulation data. They were Close-ended questionnaire, Open ended questionnaire and Interview. The second credibility the researcher used peer debriefing as a secondary data in data analysis the researcher choosed the term because it corresponds against the confirmability thus, the researcher uses credibility and confirmability in the same time without eliminating each term.

2. Dependability

According to Bitsch (2005) in Anney (2014: 278), dependability refers to "the stability of findings over time" (p. 86). There are An Audit Trail, Stepwise Replication, Code-Recode and. In this research, the term of dependability used an audit trail because to strengthen and to balance the finding over time the data display should be shown in specific complete data. They were separated and showed the raw and final data such as interview, document and collected data record.

3. Transferability

Transferability refers to the degree to which the results of qualitative research can be transferred to other contexts with other respondents – it is the interpretive equivalent of generalizability (Bitsch, 2005;Tobin & Begley, 2004) in Anney (2014:277) there are providing thick description and Doing Theoretical/Purposive sampling. In this research, the transferability used conducting thick description because to make the reader understand without read it twice or more this research provided the description as rich as possible. To correspond the need source of reference the result of this study can be used in doing further research and the amplification discussed in this research is transferable by giving good impact in translating English-Bahasa text. For instance the Bahasa requires pronoun explicitaion to be stated in TL thus translator can used explicitation technique to improve the translation quality in his/her translation.

4. Confirmability

Confirmability refers to the degree to which the results of an inquiry could be confirmed or corroborated by other researchers (Baxter & Eyles, 1997) in Anney (2014:279) he also mentioned by using Reflexive Journal or Practice to make the good confirmability. As mentioned above the confirmability uses side by side as credibility in addition, the researcher used the reflective journal in order to establish the finding and the confirmable from this research among journals kept by the researcher and a practice used by some communities, individual or institution was checked in order to get the confirmability to this research. This means that the researcher's perspective in analyzing data in this study was conducted before in other journal and thesis. Although, the previous study did not reveal amplification technique in detail. The researcher also checked the confirmability by conducting an interview to peer debriefings (practice used by individual) about the book's translation quality and the result that the translated book was commended having a high translation quality.

C. Data Analysis

The data analysis began firstly by collecting all data occurred amplification technique purposed by Molina and Albir (2002) there were 161 data found in the book from 8 chapters. The data classified into four types. The researcher analyzed the data, by rechecking the Molina's theory and data repeat. The researcher reduced the data into 159. After the data are categorized based on Molina and Albir theory then all of the data were checked by 2 validators the data validated by rater finally compressed into 149 data of the amplification technique in the form of sentence. They were explicitation (109 data), addition (16 data), paraphrase (18 data), and footnotes (6 data). The data was also checked its quality by raters they were Mr. Zainal and Mr. Robidh. They were lectures from English Literature department for checking the quality of translation such as accuracy, acceptability and readability of both *The Creation of Universe* book and its translation data by using the term of quality analysis purposed by Nababan. Then the data of amplification technique and its quality were analyzed to get the final result by comparing the primary data from raters and secondary data. The analysis conducted by the researcher was purposive sampling. Some data which far from objectivity came from peer debriefing were not used in the final data analysis. The final data then were categorized and described in chapter four and the final step were drawing conclusion and suggestion.

CHAPTER IV

RESEARCH FINDING AND DISCUSSION

This chapter provides data analysis in order to full fill the answer of the problems statement presented in chapter one. This chapter are divided into research finding and discussion. Research finding are divided into two points. They are the finding about the types of amplification technique classification and the finding about the amplification technique influence toward translation quality. The discussion is centered to full fill the answer from the problem statement in chapter two.

A. Research finding

The previous chapter mentioned that the researcher found 161 data. Passed by the analysis and validators, the data were simplified into 149. The data were classified into four types: explicitation 109 (73,1%) data, addition 16 (10,7%), paraphrase 18 (12,0%) data, and footnotes 6 (4,0%) data. The data distribution can be seen in the table 4.1 amplification data display.

1. The Types of Amplification Technique

Based on chapter four the data classification of amplification technique are distributed into four types. They were explicitation, addition, paraphrase and footnote. The specific data analysis can be described in this subchapter.

a. Explicitation

Explicitation can be defined to give additional example in TL which is implicit from the SL. The example can be pronoun and implicit item in SL. Clearly seen in the table 4.1 amplification data display, the Explicitation is showed as the dominant of amplification technique in the book. There were 109 (73,1%) from 149 data found by the researcher. Based the theory mentioned in chapter two, explicitation is divided into 2 types. They were pronoun explicitation consisting of 60 (57,2%) data and containing 49 (42,7%) data, Margot's illegitimate paraphrase were found among 110 of explicitation data. The data distribution can be seen in table 4.2 explicitation data distribution.

The researcher provides two data description. The first datum is a sample of pronoun explicitation the datum can be seen below.

13/SL-26/TL-16/Ex

- SL Calculations for this model show that each universe will transfer an amount of entropy to **its** successor.
- TL Perhitungan untuk model ini menunjukkan bahwa setiap alam semesta akan mentransfer sejumlah entropi kepada **alam** semesta berikutnya.

Datumn sample above is one of 109 data categorized as explicitation. The datum is categorized in pronoun explicitation. The pronoun "its" in the SL is changed into *alam semesta* in the TL. Explicitation is obvious that requires references in the SL. To emphasis the clear explanation the datum can be seen in the context as follow:

Even if we allow that there is some mechanism by which this cycle of contraction-explosion-expansion does take place, the crucial point is that this cycle cannot go on forever, as is claimed. Calculations for this model show that each universe will transfer an amount of entropy to *its* successor. In other words, the amount of useful energy available becomes less each time and every "opening" universe will open more slowly and have a larger diameter. (Adnan Octar: 2000). Paragraph above points "its", the only pronoun that corresponds the technique done by the translator which is the phrase *alam semesta* in TL. Pronoun explicitation can be resolved by finding both reference and context situation. Because the reference and the context are clear, this datum is categorized as an explicitation technique conducted by Molina's theory.

The second example is a datum categorized as illegitimate paraphrase which makes the implicit item is stated explicitly in TL.

24/SL-39/TL-28/Ex

- SL The difference between the strongest (strong nuclear force) and the weakest (gravitational force)...If the **strong force** had been just slightly weaker...
- TL Selisih antara yang terkuat (gaya nuklir kuat) dan yang terlemah (gaya gravitasi)...Jika gaya **nuklir** kuat sedikit lebih lemah saja...

An example of explicitation datum above is categorized in illegitimate paraphrase. The phrase "strong force" in the SL is expanded into *Gaya Nuklir Kuat* in the TL. Although the SL does not contain the word *nuklir* which means "nuclear" the implicit meaning can be found in SL. Both the context and the reference are obvious in the SL. To emphasis the clear explanation the datum can be seen in the context below:

An average star would have a mass a trillion times less than the sun and a life span of about one year. On the other hand, if gravity had been less powerful, no stars or galaxies would have ever formed. The other relationships and values are no less critical. If the *strong force* had been just slightly weaker, the only element that would be stable would be hydrogen. No other atoms could exist. (Adnan Octar: 2000). Previous paragraph points "strong force", the only phrase that corresponds the technique done by the translator which is the phrase *gaya nuklir kuat* in TL. Margot's illegitimate paraphrase can be resolved by finding both reference and context situation. This category does not include pronoun explicitation because the datum does not contain pronoun. Hence the reference and the context are clear, this datum is categorized as an explicitation technique conducted by Molina's theory.

b. Addition

Addition technique has no reference in the SL to compare the translation in TL. The addition is purely added by the translation decision to make the text readable and acceptable. Based on table 4.1, addition consists of 16 (10,7%) data found in this research. The distinct of amplification technique data distribution of addition is far from the quantity of explicitation data. Related in this research, translator decision to use addition in the book occupies third rank in quantity than other amplification techniques. The researcher provides two data which are categorized as addition. The first datum can be seen below.

17/SL-30/TL-20/Ex

- SL This has been declared in the holy books that have served as guides for mankind for thousands of years. () In the only book revealed by Allah...
- TL Ini telah dinyatakan dalam kitab-kitab suci yang telah berfungsi sebagai penunjuk jalan bagi manusia selama ribuan tahun. Dalam semua kitab suci seperti Perjanjian Lama, Perjanjian Baru, dan Al Quran, dinyatakan bahwa alam semesta dan segala isinya diciptakan dari ketiadaan oleh Allah.Dalam satu-satunya kitab yang diturunkan Allah...

Addition has different ways to resolve than explicitation technique purposed by molina's theory. Sample above notices that the clause *Dalam semua kitab suci seperti Perjanjian Lama, Perjanjian Baru, dan Al Quran, dinyatakan bahwa alam semesta dan segala isinya diciptakan dari ketiadaan oleh Allah* in TL cannot be found. This is obvious when revealing the whole paragraph below:

In addition to explaining the universe, the Big Bang model has another important implication. As the quotation from Anthony Flew cited above points out, science has proven an assertion hitherto supported only by religious sources. This truth is the reality of Creation from nothingness. This has been declared in the holy books that have served as guides for mankind for thousands of years. In the only book revealed by Allah that has survived completely intact, the Qur'an, there are statements about the Creation of the universe from nothing as well as how this came about that are parallel to 20thcentury knowledge and yet were revealed fourteen centuries ago. (Adnan Octar: 2000).

Based in paragraph above, between the third and fourth line should

be the only space that occupies the TL clause *Dalam semua kitab suci* seperti Perjanjian Lama, Perjanjian Baru, dan Al Quran, dinyatakan bahwa alam semesta dan segala isinya diciptakan dari ketiadaan oleh Allah in SL. When the source reference, implicit meaning and context cannot be found in SL, the datum is categorized in Addition based Molina's theory. This technique is intended by the translator to emphasis the previous sentence. And the clause *Dalam semua kitab suci seperti Perjanjian Lama, Perjanjian Baru, dan Al Quran, dinyatakan bahwa* alam semesta dan segala isinya diciptakan dari ketiadaan oleh Allah is

purely added by the translator's decision.

The second description is an example of amplification datum the

sample can be seen below.

21/SL-30/TL-20/Ex

- SL The only rational answer to that question is that it is proof of () Creation and cannot possibly be accidental.
- TL Satu-satunya jawaban rasional untuk pertanyaan itu adalah bahwa keseimbangan itu merupakan bukti rancangan **sadar** dan tidak mungkin ketidaksengajaan.

Example above points that the word Sadar which means "conscious"

in TL is purely added by translator. It can be seen clearly in the whole

paragraph before the text.

What then does such a remarkable equilibrium as this indicate? The only rational answer to that question is that it is proof of Creation and cannot possibly be accidental. Despite his *own materialist* bent, Dr Davies admits this himself: "It is hard to resist that the present structure of the universe, apparently so sensitive to minor alterations in the numbers, has been rather carefully thought out..."(Adnan Octar: 2000).

The word *Sadar* that has the same meaning as "aware or conscious" cannot be found in the paragraph. The implicit meaning or reference is not written by the original author thus the translator's decision to emphasis the word "creation" by adding the word *sadar* before the word "creation" is categorized as addition based in Molina's theory.

c. Paraphrase

Paraphrase example can be seen by finding the reference in SL. However paraphrase is different than explicitation because it transfers the same meaning with different sentence. Thus the sentence have additional structure or particle. In this study the researcher found that the use of paraphrases categorized in amplification technique used by the translator occupies the second rank in data quantity. Table 4.1 amplification technique data display reveals that 18 (12,0%) paraphrase data found in the book. The following example is one of 18 paraphrase data.

15/SL-29/TL-19/Ex

- SL In conclusion, the truth disclosed by science is this: Matter and time have been brought into being by Allah, possessor of immense power and unbound by neither time nor matter. The Signs in the Qur'an
- TL Sebagai kesimpulan, kebenaran yang terungkap oleh ilmu alam adalah: Materi dan waktu telah dimunculkan menjadi ada oleh pemilik kekuatan besar yang mandiri, oleh Pencipta. Allah, Pemilik kekuatan, pengetahuan, dan kecerdasan mutlak, telah menciptakan alam semesta tempat tinggal kita. Tanda-Tanda Al Quran

Example above points out that the appositive "Allah, possessor of immense power and unbound by neither time nor matter" in SL is changed to *pemilik kekuatan besar yang mandiri, oleh Pencipta. Allah, Pemilik kekuatan, pengetahuan, dan kecerdasan mutlak, telah menciptakan alam semesta tempat tinggal kita.* The change makes the structure more complex and contains a sentence *Allah telah menciptakan alam semesta tempat tinggal kita* which means "Allah has created the universe, our place of living" in TL. This evidence can be clearly seen

based in paragraph below:

Some materialists do act with more common sense on this subject. The British Materialist H. P. Lipson accepts the truth of Creation, albeit "unpleasantly", when he says: "If living matter is not, then caused by the interplay of atoms, natural forces, and radiation, how has it come into being? I think, however, that we must...admit that the only acceptable explanation is creation. I know that this is anathema to physicists, as indeed it is to me, but we must not reject that we do not like if the experimental evidence supports it". In conclusion, the truth disclosed by science is this: Matter and time have been brought into being by *Allah*, *possessor of immense power and unbound by neither time nor matter*.

The Signs in the Qur'an

In addition to explaining the universe, the Big Bang model has another important implication. As the quotation from Anthony Flew cited above points out, science has proven an assertion hitherto supported only by religious sources. (Adnan Octar: 2000).

The two paragraph above reveal clearly that there is no written sentence "Allah has created the universe, our place of living" however the main reference and meaning in SL has not been changed in the TL. The translator only claims to emphasis the appositive reference "Allah, possessor of immense power and unbound by neither time nor matter" in SL furthermore, the text after the datum discusses the new sub chapter thus the next paragraph has a negative exact reference that describes the datum *Allah telah menciptakan alam semesta tempat tinggal kita* in SL. Explicitation is different from addition yet paraphrase is almost similar with explicitation which can be resolved by finding the context and text reference in SL. Because the reference and structure in TL are clear which have more complicated structure in TL, this datum is categorized as paraphrase based in Molina' theory. The second example is also described paraphrase datum the explanation can be seen below.

16/SL-30/TL-20/Ex

- SL Science has proven an assertion hitherto supported only by religious sources. **This truth** is the reality of Creation from nothingness.
- TL Ilmu alam telah membuktikan pandangan yang selama ini hanya didukung oleh sumber-sumber agama. **Kebenaran yang dipertahankan oleh sumber-sumber agama** adalah realitas penciptaan dari ketiadaan.

The word "this truth" in SL is written and expanded by the translator

into a clause Kebenaran yang dipertahankan oleh sumber-sumber agama

which means "the truth that is defended by religion resources" however

that expansion cannot be found clearly in the SL this can be seen in the

paragraph below:

In addition to explaining the universe, the Big Bang model has another important implication. As the quotation from Anthony Flew cited above points out, science has proven an assertion hitherto supported only by religious sources. *This truth* is the reality of Creation from nothingness. This has been declared in the holy books that have served as guides for mankind for thousands of years. In the only book revealed by Allah that has survived completely intact, the Qur'an, there are statements about the Creation of the universe from nothing as well as how this came about that are parallel to 20thcentury knowledge and yet were revealed fourteen centuries ago. (Adnan Octar: 2000).

Paraphrase that occurs in the paragraph above has the exact reference and clear context situation. Hence the datum consists of "this truth" in SL and *Kebenaran yang dipertahankan oleh sumber-sumber agama* which means "the truth that is defended by religion resources" in TL is categorized as paraphrase related to Molina's theory. d. Footnote

Although it occupies the fewest data quantity, Footnote can be seen in the bottom of a page. Thus the appearance is easy to be found in a translation product. Footnote occupies the fewest amplification technique in quantity at least there are 6 (4.0%) data categorized as footnotes. However, footnote occurs in the lowest quantity this amplification category is the most obvious items to be found in this book. In the *Creation of Universe* book, the footnote placement is located below the page followed by a numeric superscript. The researcher provides two data description in following example below.

50/SL-57/TL-33/Ft

- SL When we look at this part of the light we see that a large part of solar radiation falling outside the range of visible light is in the section of the spectrum called "**near infrared**". ⁶⁸
- TL Ketika kita mengamati bagian cahaya ini, kita mendapati bahwa sebagian besar radiasi matahari yang jatuh di luar rentang cahaya tampak berada pada bagian spektrum yang disebut "inframerah-dekat".⁶⁸

⁶⁸) Selang Inframerah dekat meliputi sinar dengan panjang gelombang 0,70 mikron, di mana cahaya tampak berakhir, hingga 1,50 mikron.

The sample above reveals that a footnote is marked with ⁶⁸ (superscript). In each page of the *Creation of universe* book, however, there are many superscripts placed by translator but none of them except data mentioned in **table 4.1** contain footnote data. Otherwise, **table 4.1** contains bibliographies of source reference. The phrase "near infrared" in SL is translated literally by the phrase *inframerah-dekat* however both SL and TL have superscript (⁶⁸) which is expanded into an information

described previous sentence which is *Selang Inframerah dekat meliputi* sinar dengan panjang gelombang 0,70 mikron, di mana cahaya tampak berakhir, hingga 1,50 mikron in TL. This is an example of giving a more specific information that has not mentioned earlier. To find footnote category can be seen by finding the context before the item. The paragraph as follow:

The radiation known as "visible light" makes up 41% of sunlight even though it occupies less than 1/10²⁵ of the whole electromagnetic spectrum. In his famous article "Life and Light", which appeared in Scientific American, the renowned physicist George Wald considered this matter and wrote "the radiation that is useful in prompting orderly chemical reactions comprises the great bulk of that of our sun."⁶⁷ That the Sun should radiate light so exactly right for life is indeed an important example of Creation.

Is the rest of the light the Sun radiates good for anything? When we look at this part of the light we see that a large part of solar radiation falling outside the range of visible light is in the section of the spectrum called "*near infrared*". This begins where visible light ends and again occupies a very small part of the total spectrum–less than $1/10^{25}$.⁶⁸

Is infrared light good for anything? Yes, but this time it's no use to look around because you can't see it with the naked eye. However you can easily feel it: the warmth you feel on your face when you look up on a bright sunny summer or spring day is caused by infrared radiation coming from the Sun. (Adnan Octar: 2000).

First paragraph and third paragraph does not contain the translation

toward Selang Inframerah dekat meliputi sinar dengan panjang gelombang 0,70 mikron, di mana cahaya tampak berakhir, hingga 1,50 mikron in TL. The translator decides to put the footnote that explains the phrase "near infrared" because none of those paragraph above explain which explanation categorized by "near infrared" category in SL. So the addition footnote is placed below the page to strengthen the "near infrared". Hence the placement of the TL page is obvious, this datum is categorized as a footnote. There is second footnote example as follow.

98/SL-115/TL-101/Ft

- SL The ultraviolet light concentrated in such a **miniscule band**⁶⁹ is needed for the synthesis of vitamin D in humans and other vertebrates. In other words, all the radiation emitted by the Sun is essential to life
- TL Sinar ultraviolet yang berada pada **pita** begitu **sempit** ini diperlukan u-ntuk pembentukan vitamin D pada manusia dan binatang bertulang bela-kang.⁶⁹

⁶⁹) Selang yang sempit ini meliputi sinar ultraviolet antara 0,29 mikron sampai 0,32 mikron.

Datum above is an example of footnote. The phrase "miniscule

band⁶⁹" in SL literally translated into *pita begitu sempit* in TL and expanded

the description in the footnote above the page. To make the context clearer,

it can be shown in the following paragraph below.

The Sun's infrared radiation is what carries the thermal energy that keeps Earth warm. It too is as essential for life as visible light is. And the fascinating thing is that our Sun was apparently created just to serve for these two purposes, because these two kinds of light make up the greatest part of sunlight.

And the third part of sunlight? Is that of any benefit?

You can bet on it. This is "near ultraviolet light" and it makes up the smallest fraction of sunlight. Like all ultraviolet light, it is highly energized and it can cause damage to living cells. The Sun's ultraviolet light however is the "least harmful" kind since it is closest to visible light. Although overexposure to solar ultraviolet light has been shown to cause cancer and cellular mutations, it has one vital benefit: the ultraviolet light concentrated in such a *miniscule band*⁶⁹ is needed for the synthesis of vitamin D in humans and other vertebrates. (Vitamin D is necessary for the formation and nourishment of bone: without it, bones become soft or malformed, a disease called rickets that occurs in people deprived of sunlight for great lengths of time.)

In other words, all the radiation emitted by the Sun is essential to life: none of it is wasted. The amazing thing is that all this radiation

is limited to a $1/10^{25}$ interval of the whole electromagnetic spectrum yet it is sufficient to keep us warm, see, and allow all the chemical reactions necessary for life to take place. (Adnan Octar: 2000).

Those 3 paragraph do not contain any information about ⁶⁹) *Selang yang sempit ini meliputi sinar ultraviolet antara 0,29 mikron sampai 0,32 mikron* in TL. The information is placed below the TL page. The translator puts the explanation of the phrase "miniscule band⁶⁹" by mentioning a range that explains which specific numbers categorized as "miniscule band.⁶⁹" Because the placement and the context is obvious the datum is categorized as footnote.

2. Translation Quality of Amplification Technique

Translation Quality in this research was examined by the researcher based the assistance from two raters and two peer debriefings who has capability and competence in English language and translation. Both raters are lectures and both peer debriefing are English students. The analysis reveals that 129 (86,5%) accurate, 20 (13,4%) less accurate, 144 (96,6%) acceptable, 5 (3,35%) less acceptable, 144 (96,6%) readable and 5 (3,35%) less readable. There are no inaccurate, unacceptable and inaccurate data found in this research. The specific explanation are followed below.

a. Translation Accuracy

Translation Accuracy is one of translation quality assessment which determine the score of a translation product wheatear it is accurate in TL or not. An accurate translation can be detected when comparing both SL and TL. If the meaning from the source of language was reduced or eliminated the translation will get reducing score and when the SL has been translated with many unnecessary additional meaning the accuracy score will be also reduced. A good accuracy translation must transfer the whole meaning of SL into TL except in some cases that the translator has to eliminate or giving information that is needed to make the translation more readable or understandable. In this sub chapter the translation accuracy finding of the Creation of Universe book reveals that there are 110 accurate data, 23 data less accurate and 16 data inaccurate. The inaccurate data occurred because the second rater did not give the accuracy rating toward 16 addition data. The second rater claims that an accuracy is obvious from Nababan's translation quality assessment which cannot be scored because there is no SL reference to compare both SL and TL. Since to answer the second problem statement which to reveal the amplification impact to translation quality the data above analyzed and changed into 129 (86,5%) accurate, 20 (13,4%) data less accurate and 0 data inaccurate the data classification are described below.

1) Accurate

There are 129 (86,5%) from 149 data which are categorized as accurate. The data indicate that the impact of amplification technique in the book is effective and the book translation quality has high accuracy to transfer meaning from the original book. In this finding there are 2 data are explained first datum contains the unchanged accuracy since pre analysis. The datum is described below.

1/SL-18/TL-7/Ex

- SL Examining the universe, scientists supposed that **it** was just a conglomeration of matter and imagined that it had no beginning.
- TL Dalam mengkaji alam semesta, ilmuwan berang-gapan bahwa **jagat raya** hanyalah akumulasi materi dan tidak mem-punyai awal.

Based on the example above the accuracy in word to word translation is accurate there is no reduction meaning occurred in the translation and the explicitation of pronoun "it" which is transferred into *jagat raya* has high accuracy because in Bahasa, pronoun have to be explicated to make the reader easily understand the meaning without reading TL twice. Thus the explicitation done by the translator makes the translation accurate.

The second example is the data that has been changed from less accurate into accurate after being considered by the analysis which combines the raters and peer debriefing data assessment. The example consist of data number 4, 39, 95, 100, 115, 117 and 118. The researcher provides data explanation number 4 below.

4/SL-18/TL-8/Ex

- SL This philosophy survived...materialism went into decline as a result of the influence of the () Catholic church and Christian faith.
- TL Filsafat ini bertahan ...materialisme mulai mengalami kemun-duran karena pengaruh **filsafat** gereja Katolik dan Kristen.

Literally the data example above has a good accuracy. The first rater gives medium score in accuracy because the change of the meaning of "faith" into *filsafat*. The *filsafat* has a bit different meaning from "faith", however the rest translation are accurate. The researcher concludes to change the translation because the second raters has no doubt about the translation accuracy assisted by two peer debriefing decision to answer the datum as a high accuracy. 2) Less Accurate

There are 20 (13,4%) data less accurate. The data occurred as less accurate can be formed as sentence that has meaning reduction and a sentence that has many unnecessary addition meanings. However there is no translation change from accurate into less accurate since the pre analysis and final analysis. The researcher provides sample which has less accuracy in quality below.

15/SL-29/TL-19/Ph

SL In conclusion, the truth disclosed by science is this: Matter and time have been brought into being by **Allah**, **possessor of immense power and unbound by neither time nor matter.**

The Signs in the Qur'an

TL Sebagai kesimpulan, kebenaran yang terungkap oleh ilmu alam adalah: Materi dan waktu telah dimunculkan menjadi ada oleh pemilik kekuatan besar yang mandiri, oleh Pencipta. Allah, Pemilik kekuatan, pengetahuan, dan kecerdasan mutlak, telah menciptakan alam semesta tempat tinggal kita. Tanda-Tanda Al Quran

Datum above has a good word to word translation or good accuracy in literal translation before and after the paraphrase. However the datum contains many additional meaning which complicates the TL. The first rater claims that the additional meaning given by translator is based by her religion. Thus the meaning of the original translation is bent to translator's believe. The second raters and first peer give high accuracy rating while the first rater gives less accurate and the second peer gives inaccurate. Hence the datum is categorized as less accurate. 3) Inaccurate

The final data analysis reveals that there is no data categorized as inaccurate data. However there are only three data which is scored in less quality which means the data contain less accuracy, less acceptable and less readable. There are data number 15, 22 and 53. Data number 15 is explained in less accuracy data number 22 is explained in less acceptable and fata 53 is described in less readable category. Both raters admit that the work of the translation is not done by common person or group. Thus the book was translated, managed and arranged well under Dzikra which is one of popular publisher in Indonesia and printed many times. Furthermore the original book is considered as best seller in international market and translated into many languages including Bahasa.

b. Translation Acceptability

Translation Acceptability means that how natural the work done by translator in transferring meaning from SL to TL thus the user or reader reads the text similarly as reading their mother language. The acceptability includes grammar, culture and context situation that have to transfer correctly in TL. The translation final data analysis indicates that there are 144 (96,6%) Acceptable, 5 (3,35%) less Acceptable and 0 less acceptable data. The data reveals that the *Creation of Universe* book has high acceptability toward translation quality. Further specific explanations are described below.

1) Acceptable

The final result of acceptable analysis indicates that there is no data quality change from pre analysis and final analysis drawn from both raters. The acceptable is only based by the raters because the raters represent the peer. This move is decided by researcher because the peer answer is far from objective. Thus the researcher decides to use only the rater's criteria. The result consist of 144 (96,6%) Acceptable data. Concerning translation acceptability the researcher provides two example. The first example is a datum which has contextual and grammatical acceptability described below.

66/SL-72/TL-59/Ph

- SL These huge spaces are the outcome of **a special** Creation and not a result of coincidence.
- TL Ruang yang begitu besar ini adalah hasil dari rancangan yang disengaja dengan maksud tertentu dan bukan hasil peristiwa kebetulan.

The datum acceptability is supported by paraphrasing the word "a special" a noun phrase in English into *yang disengaja dengan maksud tertentu* "(which is intended with certain purpose)" a clause in Bahasa and English this means the grammatically was changed by the translator by transferring the context situation in a sentence from phrase "a special". Although the second rater gives an acceptable score, the first rater claims that the datum has no equivalent meaning

between "a special" in SL and *yang disengaja* "(which intended)" in TL. However the first rater claims that datum number 66 lacking in equivalent, the second rater mentions that the change does not change the meaning significantly. Thus the datum is categorizes as acceptable translation.

The second example contains cultural grammatical and contextual criteria in acceptability the datum can be seen below.

79/SL-94/TL-81/Ex

- SL **Geography** also helps distribute heat equally over the earth.
- TL Geografi **bumi** juga membantu menyebarkan panas secara merata di seluruh permukaan bumi.

The word *bumi* after the word Geography is added in TL. The translator changed the grammatical structure from word "geography" into noun phrase *geografi bumi*. The cultural term in Bahasa commonly orders that a term has to be explained in specific information. The word "geography" is a general term and adding *bumi* makes the translation becomes natural. However the first rater gives less acceptable score because the word *bumi* after the word *geografi* in TL is not necessary to be added. Although it is not necessary, the first rater claims that the change does not transfer the translation meaning incorrectly. The second rater assists that the datum is categorized as acceptable. Thus the final analysis was done by giving acceptable rating.

2) Less Acceptable

The data consisted as less accurate have lacks in grammatical or cultural criteria. By the change of grammatical term the context or the meaning will also change. In this research the data which have less acceptable category can be found in paraphrase, explicitation and addition. The data consist of 5 (3,35%) data, they are 15, 21, 22, 53 and 105. To reveal the details can be seen in this following datum which has lacking contextual term.

22/SL-38/TL-26/Ph

- SL Despite **his own materialist bent**, Dr Davies admits this himself:
- TL Dr. Davies mengakui sendiri hal ini, meskipun kecenderungannya tetap mengarah pada materialisme:

The second rater gives acceptability score however the first rater gives less acceptable score. The first rater states that the word "bent" is translated incorrectly .The correct translation must be *meskipum paham mterialismenya sudah berubah* "(despite his own materialist has changed)" in TL. The change also triggers the translation accuracy which make the translation categorized in less accurate rating. Furthermore the datum contains both less accurate and less readable thus the datum is included as less acceptability.

3) Unacceptable

The final data analysis reveals that there is no data categorized as unacceptable data. However there are only three data which is scored in less quality which means the data contain less accuracy, less acceptable and less readable. There are data number 15, 22 and 53. Data number 15 is explained in less accuracy data number 22 is explained in less acceptable and fata 53 is described in less readable category. Both raters admit that the work of the translation is not done by common person or group. Thus the book was translated, managed and arranged well under Dzikra which is one of popular publisher in Indonesia and printed many times. Furthermore the original book is considered as best seller in international market and translated into many languages including Bahasa.

c. Translation Readability

Translation Readability means that how high the translation product can be understood in other meaning the higher the score the easier the translation meaning can be obtained by the reader or the user of a book. In this research the translation final data analysis indicates that there are 144 (96,6%) readable, 5 (3,35%) less readable and 0 unreadable data. In the line with acceptability this translation quality criteria does not include the peer rating score in the final analysis because their rating is far from objective thus the rating from the raters represent the readability criteria. The data reveals that the *Creation of Universe* book has high readability toward translation quality. Further specific explanations are described below.

1) Readable

The creation of universe book provides data in amplification technique which categorized as acceptable consisting of 144 (96,60%)

data. this final analysis result claims that the book has high readability in transferring the original meaning into target language and the reader can understand the TL meaning and information easily. The researcher provides an example of readable data below.

112/SL-121/TL-106/Ex

- SL The photon's energy activates a complex molecule called "rhodopsine", large quantities of which are contained in these cells. The rhodopsine in turn activates other cells and **those** activate still others in turn.
- TL Energi foton mengaktifkan "rhodopsin", suatu molekul kompleks yang banyak terkandung dalam sel retina. Selanjutnya rhodopsin mengaktifkan sel-sel lain, dan sel lain tersebut pada gilirannya mengaktifkan sel yang lain lagi.

The second raters gives readable rating while the first rater gives less readable rating. The first rater argues that word to word translation done by the translator in TL is not equivalent to the text in SL. However the change is not equivalent, the move from translator makes the translation easy to be understood. Thus the datum is categorized as readable datum.

2) Less Readable

This research reveals that data categorized as less readable can be seen in explicitation, paraphrase and addition. There are 5 (3,35%) data including data number 15, 21, 22, 53 and 118. the change done by translator which makes the translation lacking in readability occurs when there is a slang or language style addition in the target language. Thus sometimes makes the reader or user read the text more than once to understand the information and get the meaning. This research provides one data example described below.

53/SL-61/TL-49/Ex

SL

the strong nuclear force is just barely strong enough to do what it does. If it were even slightly weaker than it is, **it** would not be able to unite the two nuclei.

TL sebegitu kuatnya gaya nuklir kuat ini, namun ha-nya cukup kuat untuk melakukan tepat apa yang selama ini telah dilakukannya. Jika hanya sedikit lebih lemah, maka **gaya** ini tidak mampu menyatukan dua inti.

Although the second rater gives a readable rating, the first rater states that the phrase *sebegitu kuatnya* "(barely strong)" in TL, the particle –*nya* has no clear reference toward the word *dialakukannya* "(it is done)" in TL and the meaning of *sedikit lebih lemah* "(slightly weaker)" has no clear meaning in the translation. Thus the datum is categorized as less accurate by the researcher.

3) Unreadable

The final data analysis reveals that there is no data categorized as unreadable data. However there are only three data which is scored in less quality which means the data contain less accuracy, less acceptable and less readable. There are data number 15, 22 and 53. Data number 15 is explained in less accuracy data number 22 is explained in less acceptable and fata 53 is described in less readable category. Both raters admit that the work of the translation is not done by common person or group. Thus the book was translated, managed and arranged well under Dzikra which is one of popular publisher in Indonesia and printed many times. Furthermore the original book is considered

as best seller in international market and translated into many languages including Bahasa.

B. Research Discussion

The discussion is centered in answering problem statement mentioned in chapter one. The first about the amplification data classification and the second is about amplification technique impact toward translation quality. In addition, the researcher includes amplification technique related in English education.

1. Types of Amplification Technique

Previously mentioned in chapter two amplification technique used here is the technique purposed by Molina and Albir (2002). The final result data are distributed and can be seen in the table 6 amplification data distribution. The researcher found that there are explicitation 109 (73,1%) data, addition 16 (10,7%), paraphrase 18 (12,0%) data, and footnotes 6 (4,0%) data. The explicitation is also divided into two parts, the data display and distribution can be seen in table 4.2 explicitation data distribution. The finding shows that They are pronoun explicitation consisting of 60 (57,2%) data and Margot's illegitimate paraphrase containing 49 (42,7%) data. The centered discussion is described below

a. Explicitation

Explicitation is the dominant amplification technique applied by translator in the Creation of Universe book. Recorded in open ended questionnaire Mr. Zainal Muttaqien (first rater) mentions that explicitation is an explanation from something which has been mentioned earlier. Commonly this explanation appears as mentioned name or proper name from noun or pronoun that the meaning in SL cannot be transferred accurately into TL. Explicitation used frequently because it conveys the implicit meaning in SL which have to be written explicitly in TL. This obligation is necessary because in the target language (Bahasa Indonesia) the pronoun or implicit meaning can confuse the reader to get the point of the information inside the text. The move from the translator used the explicitation is to improve the quality of readability and acceptability of the text by adapting the TL culture in order to make the translation as natural as possible.

There are two types of Explicitation, the first category is pronoun explicitation which amplify the pronoun (she, he it, etc.) from English. The most pronoun used in this book is pronoun "it" this happens because the book discuses about the universe which large part of subject uses inanimate object. For instance "the sun surface is hot, it emits radiation" is translated into *temperatur permukaan matahari panas, matahari memancarkan radiasi*. The pronoun "it" which mentioned earlier as "sun" is not translated into *itu* although the meaning is similar, instead it translated by repeating the previous reference *Matahari* which has exact meaning as "sun". The second category is Margot's illegitimate paraphrase mentioned in Molina's theory. This technique explicit hidden item or meaning in the SL into TL. For instance the word *temperatur* "(temperature)" is not allocated in the SL however the context form the sentence is related about temperature then the word *temperatur* is amplified in the TL.

No	Amplification Technique	Data Number	Quantity	percentage
1	Explicitation	1, 2, 4, 5, 6, 7, 9, 11, 12, 13, 14,	109	73,1%
		18, 19, 20, 23, 24, 25, 27, 28, 29,		
		30, 31, 32, 33, 34, 48, 40, 41, 45,		
		46, 47, 48, 49, 51, 53, 54, 55, 56,		
		60, 61, 62, 63, 64, 65, 67, 69, 70,		
		71, 73, 74, 75, 76, 78, 89, 81, 82,		
		83, 86, 87, 88, 89,91, 92, 94, 96,		
		97, 99, 100, 101, 104, 106, 109,		
		110, 112, 113, 114, 115, 116,		
		117, 118, 119, 120, 121, 122,		
		123, 124, 126, 127, 129, 130,		
		131, 132, 133, 134, 135, 137,		
		138, 139, 140, 141, 142, 143,		
		144, 146, 147, 148 and 149		
2	Addition	10, 17, 21, 26, 36, 58, 72, 77, 80,	16	10,7%
		84, 85, 93, 102, 105, 107 and 136		
3	Paraphrase	3, 8, 15, 16, 22, 35, 37, 39, 43,	18	12,0%
		52, 57, 59, 66, 68, 90, 103,		
		108,and 128		
4	Footnote	50, 95 98, 111, 125 and 145	6	4,0%
Total	4	149	149	100%

Table 4.1 Amplification Data display

Types of Explicitation	Data Number	Quantity	Percentage
Pronoun explicitation	1, 2, 5, 6, 7, 13, 18, 20, 38, 40, 42,	60	55,0%
	52, 53, 54, 64, 65, 67, 70, 71, 76,		
	78, 81, 86, 89, 91, 94, 96, 97, 99,		
	100, 101, 104, 106, 109, 110, 113,		
	114, 117, 120, 123, 124, 126, 129,		
	130, 132, 133, 134, 135, 137, 138,		
	139, 140, 141, 142, 143, 146, 148,		
	and 149		
Margot's illegitimate	4, 9, 11, 12, 14, 19, 23, 24, 25, 27,	49	44,9%
paraphrase	28, 29, 30, 31, 32, 33, 34, 41, 44,		
	45, 46, 47, 48, 49, 55, 56, 60, 61,		
	62, 69, 73, 74, 75, 79, 82, 83, 87,		
	88, 92, 112, 118, 119, 121, 122,		
	127, 131, 144, and 147		
Total	109	109	100%

Table 4.2 Explicitation Data Distribution

b. Addition

Delisle (1993:484-488) states that addition is to introduce unjustified stylistic elements and information that are not formulated in the TL. First rater mentions addition as additional word, phrase or clause in TL which has no reference in SL this move is done in order to give explanation which probably difficult to be understood if the original text translated originally or without extra information. Ardi (2010:80) explains that this technique is an additional information which is not occurred in the SL (explicitly nor implicitly). It is a pure explanation added by translator that has no reference in SL. The conclusion of addition reveals that this technique is only located in TL which the translator's opinion or believe composes the translation. For instance: "the average space between stars is about 15 light years" is translated into *jarak ruang rata-rata diantara bintang-bintang adalah 15 tahun cahaya dimana benda yang bergerak seteara dengan kecepatan cahaya akan tiba di tempat tujuan selama 15 tahun*. There is addition clause which has meaning as "where a movement of an inanimate object travels equal light speed will reach the destination for 15 years". The additional clause is very obvious that it is not formulated in original text. If this move does not appear the translation, the meaning will be difficult to be read and makes the reader questioning the unidentified term in TL.

c. Paraphrase

Delisle (1993:484-488) defines paraphrase complicates the TL. Paraphrase is a lexical change that makes the TL longer than the SL Margot's legitimate paraphrase (1979). Mr. Zainal Muttaqien describes paraphrase as a transferring meaning or purpose from SL to TL in different pattern of a sentence. He also claims that commonly in translation paraphrase uses free translation than word-for-word translation or literal translation. It also differs with explicitation which shows that paraphrase has no explanation in the original text. The conclusion drawn by the researcher about paraphrase: when a word, phrase or sentence which contained in SL is transferred with additional particle, word, phrase, sentence or clause in the TL. The paraphrase can be found as long as the context, item reference is available in SL. the reverse from addition which has no reference or context in SL. for instance: "the expansion is distributed everywhere" the word "everywhere" is translated into *di seluruh jagat raya* "(in every part of universe)". The reference in the SL is "everywhere" then it is expanded in TL into "in every part of universe" it means that the word "everywhere" is replaced with *di seluruh jagat raya*. As long as the reference related the translation can be found in SL it is categorized as paraphrase.

d. Footnote

Footnote is also included in amplification technique (Molina and Albir, 2002:510). First rater states that footnote has the same technique as addition the only difference is the appearance of these techniques which addition is located inside paragraph or text while footnote is located outside the text or paragraph. He also claims that footnote appeared in the *Creation of Universe* book mostly used to inform/identify bibliography. Thus footnote can be disregarded. Erwanda (2016:58) says that footnote is added by the translator to give additional information. It can be conclude that footnote has the same characteristic as addition which is purely added by translator which it has the only difference in location from the original text. However all footnote found in the *Creation of universe* book none of them is added

by the translator instead only translated the English meaning from the original text. The location of original text footnotes is composed in the last page of the book while in the TL each footnote which is marked with numeric superscript and located in the bottom of the TL pages.

2. Translation Quality of Amplification Technique

Second raters gives an advice that the instrument which is purposed by Nababan (2012) is obvious that an accuracy have to compare the SL and the TL side by side. In the case of addition accuracy data, second rater mentions that when giving rating with Nababan's theory, the theory could not cover the accuracy of addition technique. This happens because accuracy in addition has no reference or context in SL in which the comparison between SL and TL cannot be conducted. Thus the raters rather gives empty rating in the accuracy instrument.

However the case mentioned by the second rater is only specified only in a datum of addition instead not the whole text containing the addition, while this research is conducted to find the amplification technique impact toward translation quality in which the accuracy can be determined by finding its impact in the whole paragraph or text. The second rater also argues that when finding the impact of the whole translation, the *Penciptaan Alam Semesta* has high accuracy with the *Creation of Universe* book. The analysis reveals that 129 (86,5%) accurate, 20 (13,4%) less accurate, 144 (96,6%) acceptable, 5 (3,35%) less acceptable, 144 (96,6%) readable and 5 (3,35%) less readable. There are no inaccurate, unacceptable and inaccurate data found in this research. The researcher claims that explicitation as the most influence of amplification techniqe is used by translator to improve translation quality in *The Creation of Universe* book. This is supported by the explicitation quantity occupying (73,1%) of the data distribution. Although there is second domination by Addition and paraphrase. Both techniques in the book are used to explain some terms based on translator's perspective. Thus the researcher suggests to use addition and paraphrase more objective in translating equivalent terms. This finding reveals that amplification technique done by the translator influence the translation accuracy, acceptability and readability.

3. Implication

Translation, in the term of learning English has a vital role for English students in completing undergraduate degree. In fact, other departments such as law, economics, science, technology, and medicine have their practice emphasizing both general and specialized translation (Kiraly, 1995:10). Thus, the case of introducing and teaching translation has to be concerned correctly in order to produce a good outcome especially in English teaching department. This term is also called by "Translation Pedagogy". Beer and Koby (2003: 8) claim that there are two major debate in translation pedagogy "there have been many significant attempts to think beyond the opposition of theory versus practice, the real looser in this debate – which is essentially a debate about curricular content – continues to be the whole question of *how* to teach translation". The concept between theory and practice in teaching translation will be faced by translation trainers in order to prepare students for an appropriate tool in the workplace.

Translation education is teached in both English literature and education commonly in Indonesia University. Yet, there is unclear answer about which technique to teach EFL student in order to get a better skills and mastery in translating English language especially in English language teaching. Mustafa and Kholid (2019:131) conduct a research that reveals the lack of translation teaching credits courses of English language teaching in Indonesia. They claim that the limit of credits does not make the teaching level sufficient to teach and practice all technique specifically in translation, Thus they offer to teach translation technique to be focused to the most frequent technique occurred from English-Indonesia translation. Their finding reveal that amplification technique was a dominant technique applied in flight magazine for Garuda Indonesia followed by reduction, transposition, borrowing, modulation and literal translation. Amplification technique is also the one of most frequent technique used in translating humor in one of Harry Potter Novels (Yuliasri, 2014) and movie subtitle of Doraemon (Fitria, 2015) therefore amplification technique is one of appropriate technique to use from English-Indonesia translation (Mustafa and Kholid, 20019:139).

Amplification technique from this research corresponds the transferability of the trustworthiness. It means that this discussion can be applied in other similar learning or research related to translation field. The researcher hopes that description about amplification technique in this research will help students in understanding one of frequent techniques used from English-Indonesia translation. Another implication can be applied in direct vocabulary or cultural context or situation through English Education. For instance the use science vocabulary should be considered with explicitation and situation for example the word "conglomeration" in sentence "it was just a conglomeration" the student have to consider the use of explicitation by retracing the previous contex in order to get the meaning jagat raya hanyalah akumulasi materi. When the context is clear the meaning in TL must be equivalent and makes the sentence as natural as the reader first language/mother tongue. Another instance is cultural equivalent, for example the use of word "geography" in common indonesia culture and education the word "geography" is to general and can confuse the reader in TL. Thus to make the meaning clear, there should be "geografi bumi". There are many science vocabularies example which can be obtained in *The creation of* Universe book and can be applied in direct education for senior high school or collage student by understanding the use of amplification technique such as explicitation, addition, arapharse and footnote. This book is one of book product by Adnan Octar which has popularity and demand in Indonesia as source of information in Islamic-science knowledge from every aspect of interest from kids, teenager and adult are proper to read the book translation.

CHAPTER V

CONCLUSION AND SUGGESTION

This chapter includes the summary of the research which consist of two parts. The first part is conclusion and the second part is suggestion.

A. Conclusion

Based on analysis discussion concerning the amplification technique and its impact toward translation quality in the book "*Penciptaan Alam Semesta*" which is the translation work from the book "*Creation of Universe*". The researcher obtained a summary as follows:

- The finding consists of 149 data classified into four types: explicitation 109 (73,1%) data, addition 16 (10,7%), paraphrase 18 (12,0%) data, and footnotes 6 (4,0%) data.
- The analysis reveals that 129 (86,5%) accurate, 20 (13,4%) less accurate, 144 (96,6%) acceptable, 5 (3,35%) less acceptable, 144 (96,6%) readable and 5 (3,35%) less readable. There are no inaccurate, unacceptable and inaccurate data.
- 3. The amplification technique gives high influence in translation quality.

B. Suggestion

Based the research finding and conclusion mentioned earlier, this research includes some suggestions in order to be a consideration for the translator and to give advices to further research.

- 1. The translator decision to use amplification technique especially in paraphrase and addition should be done with a higher equivalent. Although the purpose of translation is targeted to Islamic religion, there will be possibility a non-Islamic reader will read the translation product. Thus the researcher suggests that the translator will translate original text objectively.
- 2. Information can be obtain from this research to improve student translation skill especially in conducting amplification technique.
- 3. For further research that can be conducted related with this research is using all amplification data inside a book which contain Qur'an verse in which the further research provides a specific analysis in holy book translation.
- Found in this research introduction, for further research, it is suggested to give research question about the lack of science education and development in Indonesia.
- 5. The next researcher could also use the similar technique as amplification to compare. For instance: description, linguistic amplification or correction technique.
- 6. For further translation quality development, the researcher expects that there will be translation rating instrument which can cover translation accuracy in addition technique.

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APPENDICES

Appendix 1 Final Amplification Technique Analisis

No	Data Code	Sentence	Quality
1	1/SL-18/TL-7/Ex	<i>it</i> was just a conglomeration	Accurate Readable
		jagat raya hanyalah akumulasi materi	Acceptable
2	2/SL-18/TL-7/Ex	<i>it</i> came into being.	Accurate Readable
		segala <i>isinya</i> muncul.	Acceptable
3	3/SL-18/TL-8/Ph	after	Accurate Readable
		Abad Pertengahan	Acceptable
4	4/SL-18/TL-8/Ex	the () Catholic church	Accurate Readable
- T		filsafat gereja Katolik	Acceptable
5	5/SL-18/TL-8/Ex	It was carried	Accurate Readable
5		Pandangan ini diba-wa	Acceptable
6	6/SL-20/TL-10/Ex	<i>it</i> moves away	Accurate Readable
0	0/5E 20/1E 10/EX	kereta semakin jauh	Acceptable
_		it was unlike anything	Accurate
7	7/SL-23/TL-12/Ex	<i>it</i> was unlike anything <i>radiasi</i> ini tidak seperti apa pun	Readable Acceptable

8	8/SL-23/TL-12/Ph	everywhere di seluruh jagat raya	Accurate Readable Acceptable
9	9/SL-23/TL-13/Ex	That drove Bukti itu memberikan	Less Accurate Readable Acceptable
10	10/SL-25/TL-14/Add	- Selama alam semesta dapat dengan mudah dianggap tidak hanya tanpa akhir	Less Accurate Readable Acceptable
11	11/SL-26/TL-16/Ex	Nor do they offer Hukum-hukum fisika juga tidak bisa menerangkan	Less Accurate Readable Acceptable
12	12/SL-26/TL-16/Ex	as is claimed (). seperti anggapan mereka.	Accurate Readable Acceptable
13	13/SL-26/TL-16/Ex	to <i>its</i> successor. kepada <i>alam semesta</i> berikutnya.	Accurate Readable Acceptable
14	14/SL-2/TL-17/Ex	a bigger <i>one</i> . dalam <i>partikel</i> yang lebih besar.	Accurate Readable Acceptable
15	15/SL-29/TL-19/Ph	Allah, possessor of immense power and unbound by neither time nor matter pemilik kekuatan besar yang mandiri, oleh Pencipta. Allah, Pemilik kekuatan, pengetahuan, dan kecerdasan mutlak, telah menciptakan alam semesta tempat tinggal kita.	Less Accurate Less Readable Less Acceptable

16	16/SL-30/TL-20/Ph	This truth Kebenaran yang dipertahankan oleh sumber-sumber agama	Less Accurate Readable Acceptable
17	17/SL-30/TL-20/Add	- Dalam semua kitab suci seperti Perjanjian Lama, Perjanjian Baru, dan Al Quran, dinyatakan bahwa alam semesta dan segala isinya diciptakan dari ketiadaan oleh Allah.	Accurate Readable Acceptable
18	18/SL-34/TL-24/Ex	if <i>it</i> had been dispersed randomly? seandainya <i>materi</i> itu tersebar secara acak?	Accurate Readable Acceptable
19	19/SL-35/TL-25/Ex	the universe would have <i>collapsed</i> . alam se-mesta hancur <i>bertubrukan</i> .	Less Accurate Readable Acceptable
20	20/SL-38/TL-26/Ex	<i>it</i> is proof of Creation <i>keseimbangan</i> itu merupakan bukti rancangan	Accurate Readable Acceptable
21	21/SL-38/TL-26/Add	- Sadar	Accurate Less Readable Less Acceptable
22	22/SL-38/TL-26/Ph	Despite his own materialist bent meskipun kecen-derungannya tetap mengarah pada materialisme:	Less Accurate Less Readable Less Acceptable
23	23/SL-38/TL-28/Ex	the universe we <i>live</i> in alam seme-sta <i>tempat</i> kita tinggal	Accurate Readable Acceptable
24	24/SL-39/TL-28/Ex	If the strong force had been just slightly weaker Jika gaya nuklir kuat sedikit lebih lemah saja	Less Accurate Reaadable Acceptable
25	25/SL-40/TL-29/Ex	one with the very delicate balance alam semesta dengan keseimbangan	Accurate Readable Acceptable

26	26/SL-40/TL-29/Add	() (bisa dikatakan "super-nasional").	Accurate Readable Acceptable
27	27/SL-41/TL-30/Ex	<i>which are</i> vital <i>yang kesemuanya</i> vital	Accurate Readable Acceptable
28	28/SL-41/TL-30/Ex	for <i>existence</i> untuk keberadaan <i>alam semesta</i>	Accurate Readable Acceptable
29	29/SL-41/TL-30/Ex	Let us now make a brief <i>digression</i>	Accurate Readable Acceptable
30	30/SL-42/TL-30/Ex	Mari kita menyimpang sebentar dari pokok bahasan This is, by the way, more than angka ini jauh lebih besar dari	Accurate Readable Acceptable
31	31/SL-42/TL-31/Ex	Penrose's number is more than trillion trillion trillion times less than <i>that</i> . Angka Penrose lebih besar daripada triliun triliun triliun kali <i>angka tersebut</i> .	Accurate Readable Acceptable
32	32/SL-43/TL-31/Ex	the figure needed.	Accurate Readable Acceptable
33	33/SL-43/TL-31/Ex	comprehension.	Less Accurate Readable Acceptable
34	34/SL-43/TL-31/Ex	coincidence peristiwa kebetulan	Accurate Readable Acceptable

35	35/SL-43/TL-33/Ph	there is no place for chance. dan bahwa tidak mungkin itu terjadi secara kebetulan.	Accurate Readable Acceptable
36	36/SL-45/TL-33/Add	- Orang dapat membayangkan bahwa	Less Accurate Readable Acceptable
37	37/SL-45/TL-33/Ph	Who so providentially crafted yang turun tangan dan berkenan	Accurate Readable Acceptable
38	38/SL-45/TL-33/Ex	it kerja alam	Accurate Readable Acceptable
39	39/SL-50/TL-37/Ph	one that did emerge–ours. dengan alam semesta yang sudah terbentuk alam semesta kita.	Accurate Readable Acceptable
40	40/SL-50/TL-38/Ex	<i>it</i> come into being? <i>unsur</i> tersebut terbentuk?	Accurate Readable Acceptable
41	41/SL-50/TL-38/Ex	Searching Ketika mencari	Accurate Readable Acceptable
42	42/SL-50/TL-38/Ex	<i>it</i> is the simplest of all the elements, <i>hidrogen</i> adalah unsur paling sederhana	Accurate Readable Acceptable
43	43/SL-51/TL-38/Ph	hence their name. sehingga diberi nama neutron.	Accurate Readable Acceptable
44	44/SL-52/TL-39/Ex	strong <i>nuclear</i> force gaya <i>inti</i> /nuklir yang kuat	Accurate Readable Acceptable
45	45/SL-52/TL-40/Ex	(clouds) (awan kosmis)	Accurate Readable Acceptable

			Accurate
46	46/SL-54/TL-40/Ex	three	Readable
		tiga atom	Acceptable
			Accurate
47	47/SL-56/TL-43/Ex	-	Readable
		ayunan	Acceptable
			Accurate
48	48/SL-56/TL-44/Ex	the other	Readable
		biola yang lain	Acceptable
			Accurate
49	49/SL-56/TL-44/Ex	from one another	Readable
		antara satu atom dan atom yang lain	Acceptable
			Accurate
50	50/SL-57/TL-33/Ft	resonance	Readable
		resonansi	Acceptable
			Accurate
51	51/SL-57/TL-45/Ex	<i>it</i> should occur twice	Readable
		resonansi tersebut terjadi dua kali	Acceptable
	52/SL-58/TL-45/Ph	domou da	Accurate
52		depends	Readable
		bergantung pada proses ini	Acceptable
		<i>it</i> would not be able	Less Accurate
53	53/SL-61/TL-49/Ex		Less Readable
		maka <i>gaya</i> ini tidak mampu	Less Acceptable
			Accurate
54	54/SL-62/TL-50/Ex	It	Readable
		Matahari	Acceptable
			Accurate
55	55/SL-63/TL-51/Ex	many	Readable
		banyak orang	Acceptable
			Accurate
56	56/SL-68/TL-55/Ex	normal	Readable
		<i>keadaan</i> normal	Acceptable

57	57/SL-68/TL-56/Ph	ancient supernova	Accurate Readable
0,	57/5E 00/1E 50/1H	supernova yang terjadi dahulu kala	Acceptable
		-	Accurate
58	58/SL-68/TL-56/Add		Readable
		Jarak antarbintang dalam galaksi kita adalah sekitar 30 juta tahun cahaya	Acceptable
59	59/SL-69/TL-57/Ph	other bodies	Accurate Readable
39	59/SL-09/1L-57/PI	benda-benda alam semesta lainnya.	Acceptable
			Accurate
60	60/SL-71/TL-56/Ex	others	Readable
		bintang lainnya	Acceptable
			Accurate
61	61/SL-71/TL-56/Ex	system	Readable
		sistem tata surya	Acceptable
	62/SL-71/TL-57/Ex	away	Less Accurate
62		dari bola sepak	Readable Acceptable
			Accurate
63	63/SL-71/TL-57/Ex	model	Readable
		(bola dan kelereng)	Acceptable
			Accurate
64	64/SL-71/TL-59/Ex	It	Readable
		Bima Sakti	Acceptable
		it	Accurate
65	65/SL-72/TL-59/Ex		Readable
		pengaturan	Acceptable Accurate
66	66/SL-72/TL-59/Ph	a special	Readable
00	00/5L ⁻ /2/1L ⁻ J//11	yang disengaja dengan maksud tertentu	Acceptable
			Accurate
67	67/SL-72/TL-60/Ex	it	Readable
		mobil	Acceptable

68	68/SL-74/TL-61/Ph	maximized	Accurate Readable
	00,02 , 1,12 01,11	entropi telah mencapai derajat paling tinggi	Acceptable
		masses	Accurate
69	69/SL-77/TL-65/Ex		Readable
		massa benda-benda langit ter-sebut	Acceptable Accurate
70	70/SL-77/TL-65/Ex	they	Readable
70	70/SL-77/1L-03/EX	benda-benda langit ter-sebut. Jadi, planet-planet	Acceptable
			Accurate
71	71/SL-81/TL-69/Ex	it	Readable
		bumi	Acceptable
		_	Accurate
72	72/SL-81/TL-69/Add		Readable
		berda-sarkan kenyataan	Acceptable Less Accurate
73	73/SL-81/TL-69/Ex	organized	Readable
15		oleh Allah	Acceptable
			Accurate
74	74/SL-81/TL-69/Ex	revealed	Readable
		di dalam Al Quran	Acceptable
			Accurate
75	75/SL-84/TL-72/Ex	"land" on	Readable
		pesawat	Acceptable
76		It	Accurate Readable
/6	76/SL-86/TL-72/Ex	Badai	Readable Acceptable
		-	Accurate
77	77/SL-89/TL-75/Add		Readable
		Dan, seperti yang akan kita temukan, memang demikian adanya.	Acceptable
			Accurate
78	78/SL-89/TL-77/Ex	it	Readable
		adaptasi	Acceptable

79	79/SL-94/TL-81/Ex	Geography Geografi bumi	Accurate Readable Acceptable
80	80/SL-99/TL-88/Add	- Bahkan peningkatan 5% oksigen dalam atmosfer bumi akan menyebabkan kebakaran yang membinasakan sebagian besar hutan yang ada	Accurate Readable Acceptable
81	81/SL-102/TL-89/Ex	it zat	Accurate Readable Acceptable
82	82/SL-103/TL-90/Ex	those nilai-nilai tersebut	Accurate Readable Acceptable
83	83/SL-103/TL-90/Ex	that nilai yang tepat.	Less Accurate Readable Acceptable
84	84/SL-104/TL-91/Add	- (Akibatnya air di laut tetap berada di laut, air di daratan akan mengalir ke laut)	Accurate Readable Acceptable
85	85/SL-110/TL-95/Add	- bahwa jawaban untuk dua perta-nyaan terakhir adalah "ya". "Ya"	Accurate Readable Acceptable
86	86/SL-110/TL-96/Ex	them antarpuncak riak	Accurate Readable Acceptable
87	87/SL-110/TL-96/Ex	between antara kedua angka ini.	Less Accurate Readable Acceptable
88	88/SL-110/TL-96/Ex	rays sinar Gamma	Accurate Readable Acceptable

89	89/SL-110/TL-96/Ex	they gelombang	Accurate Readable Acceptable
90	90/SL-111/TL-96/Ph	extremes ekstrem panjang gelombang tersebut	Accurate Readable Acceptable
91	91/SL-111/TL-96/Ex	it spektrum tersebut	Accurate Readable Acceptable
92	92/SL-112/TL-98/Ex	almost insignificant section <i>of</i> the total spectrum. hampir tidak berarti <i>dibandingkan</i> keseluruhan spektrum	Accurate Readable Acceptable
93	93/SL-112/TL-98/Add	- Sungguh luar biasa	Accurate Readable Acceptable
94	94/SL-113/TL-99/Ex	it energi	Accurate Readable Acceptable
95	95/SL-114/TL-100/Ft	near infrared inframerah-dekat	Accurate Readable Acceptable
96	96/SL-115/TL-101/Ex	it matahari	Accurate Readable Acceptable
97	97/SL-115/TL-101/Ex	it sinar	Accurate Readable Acceptable
98	98/SL-115/TL-101/Ft	miniscule band pita begitu sempit	Less Accurate Readable Acceptable

99	99/SL-115/TL-101/Ex	it vitamin D	Accurate Readable Acceptable
100	100/SL-116/TL-101/Ex	its di dalam proses ini	Accurate Readable Acceptable
101	101/SL-117/TL-102/Ex	them makhluk-makhluk tersebut.	Accurate Readable Acceptable
102	102/SL-117/TL-102/Add	- dan pada pepohonan yang mungkin bahkan tidak pernah Anda tengok	Accurate Readable Acceptable
103	103/SL-117/TL-102/Ph	When we study photosynthesis Yang menarik adalah betapa cermatnya rancangan proses fotosin-tesis ini	Less Accurate Readable Acceptable
104	104/SL-118/TL-103/Ex	it siklus	Accurate Readable Acceptable
105	105/SL-118/TL-104/Add	- (gelombang)	Accurate Less Acceptable Readable
106	106/SL-118/TL-104/Ex	it TV	Accurate Readable Acceptable
107	107/SL-120/TL-104/Add	- dengan suhunya saat ini	Accurate Readable Acceptable
108	108/SL-120/TL-106/Ph	Creation rancangan yang disengaja dan direncanakan	Less Accurate Readable Acceptable
109	109/SL-121/TL-106/Ex	They	Accurate Readable

		Sel	Acceptable
110	110/SL-121/TL-106/Ex	it retina	Less Accurate Readable Acceptable
111	111/SL-121/TL-107/Ft	"rhodopsine", activate othercell, Activate still others, carried to the brain "rhodopsin", rhodopsin mengaktifkan sel-sel lain, mengaktifkan sel yang lain lagi, diantarkan ke otak	Accurate Readable Acceptable
112	112/SL-121/TL-106/Ex	those sel lain tersebut	Less Accurate Readable Acceptable
113	113/SL-121/TL-107/Ex	it energi	Accurate Readable Acceptable
114	114/SL-121/TL-107/Ex	it foton	Accurate Readable Acceptable
115	115/SL-123/TL-109/Ex	it sekarang ini	Accurate Readable Acceptable
116	116/SL-126/TL-112/Ex	it air	Accurate Readable Acceptable
117	117/SL-128/TL-114/Ex	It Rancangan	Accurate Acceptable Readable
118	118/SL-129/TL-115/Ex	Creation yang disengaja	Accurate Acceptable Less Readable
119	119/SL-129/TL-115/Ex	for life	Accurate Readable

		<i>bagi kita</i> untuk hidup	Acceptable
120	120/SL-129/TL-115/Ex	it	Accurate Readable
		cahaya matahari	Acceptable
121	121/SL-131/TL-117/Ex	now is	Accurate Readable
		dari kuantitasnya sekarang	Acceptable
122	122/SL-129/TL-115/Ex		Accurate Readable
122	122/SL-129/1L-115/EX	water	Acceptable
		atau sepenting	Accurate
123	123/SL-134/TL-120/Ex	it	Readable
		air	Acceptable
			Accurate
124	124/SL-134/TL-120/Ex	it	Readable
		es	Acceptable
125	125/SL-134/TL-120/Ft	latent heat	Accurate Readable
125	125/5L-15 4 /1L-120/11	panas laten (latent heat)	Acceptable
			Accurate
126	126/SL-136/TL-121/Ex	they	Readable
		es dan salju	Acceptable
105			Accurate
127	127/SL-137/TL-122/Ex	this	Readable
		keadaan ini	Acceptable
128	128/SL-138/TL-124/Ph	If it rises	Accurate Readable
120	120/02 130/12 124/11	Jika suhu tubuh meningkat meskipun hanya bebe-rapa derajat	Acceptable
			Accurate
129	129/SL-138/TL-124/Ex	it	Readable
		tubuh	Acceptable

130	130/SL-143/TL-128/Ex	It Perilaku	Accurate Readable Acceptable
131	131/SL-143/TL-129/Ex	that tegangan	Accurate Readable Acceptable
132	132/SL-143/TL-129/Ex	it batu	Accurate Readable Acceptable
133	133/SL-145/TL-132/Ex	they makanan dan oksigen	Accurate Readable Acceptable
134	134/SL-147/TL-133/Ex	it se-mua sel	Accurate Readable Acceptable
135	135/SL-147/TL-133/Ex	it darah	Accurate Readable Acceptable
136	136/SL-152/TL-137/Add	- Fisikawan Robert E. D. Clark merujuk pada keberadaan rancangan khusus dan luar biasa dalam unsur pembentuk kehidupan ketika dia berkata: "Seolah Sang Pencipta telah memberi kita seperangkat bagian-bagian pracetak yang dibuat siap untuk bekerja."	Accurate Readable Acceptable
137	137/SL-153/TL-138/Ex	<i>it</i> <i>logam</i> panjang	Accurate Readable Acceptable
138	138/SL-159/TL-145/Ex	It's Pengandaian	Accurate Readable Acceptable

139	139/SL-159/TL-146/Ex	they kedua ikatan	Accurate Readable Acceptable
140	140/SL-159/TL-146/Ex	it ikatan	Accurate Readable Acceptable
141	141/SL-161/TL-148/Ex	they hidrokarbon	Accurate Readable Acceptable
142	142/SL-161/TL-148/Ex	they tubuh	Accurate Readable Acceptable
143	143/SL-163/TL-148/Ex	it reaksi	Accurate Readable Acceptable
144	144/SL-163/TL-148/Ex	- apabila tanpa katalis	Accurate Readable Acceptable
145	145/SL-163/TL-149/Ft	enzyme system sistem en-zim	Accurate Readable Acceptable
146	146/SL-166/TL-152/Ex	it oksigen	Accurate Readable Acceptable
147	147/SL-166/TL-152/Ex	this keracunan	Accurate Readable Acceptable
148	148/SL-167/TL-153/Ex	they unsur-unsur	Accurate Readable Acceptable
149	149/SL-169/TL-154/Ex	it benda-benda tersebut	Accurate — Readable Acceptable

Appendix 2 Second Rater Sheet

RATER SHEET

This data is design to obtain the validation of the data and the translation quality assessment of accuracy, acceptability and readability in the book under the title "The Creation of Universe" and its translation product from the raters who have capability in translation field.

Surakarta, 18.. December 2019

Robith Khoiril Uman S.S.M Hum)

Appendix 3 Second Rater's Closed Questionain
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			Amplific	Translation Quality assessment										
			chnique	A	ccura	acy	Acc	eptal	bility	Rea	ility			
No.	Sentence	Ex	Add	Ph	Ft	3	2	1	3	2	1	3	2	1
1	Examining the universe, scientists supposed that <i>it</i> was just a conglomeration of matter and imagined that it had no beginning. Dalam mengkaji alam semesta, ilmuwan berang-gapan bahwa <i>jagat raya</i> hanyalah akumulasi materi dan tidak mem-punyai awal.	v				v			v			v		
2	There was no moment of "Creation"-a moment when the universe and everything in <i>it</i> came into being. Tidak ada momen "penciptaan", yakni momen ketika alam semesta dan segala <i>isinya</i> muncul.	v				v			v			v		
3	This philosophy survived in different forms during Roman times but in the Late Roman Empire and <i>after</i> materialism went into decline Filsafat ini bertahan dalam bentuk-bentuk berbeda selama zaman Romawi, namun pada akhir kekaisaran Romawi dan <i>Abad Pertengahan</i> , materialisme mulai mengalami kemun-duran	-		v		v	-		v			v		
4	This philosophy survivedmaterialism went into decline as a result of the influence of the () Catholic church and Christian faith. Filsafat ini bertahanmaterialisme mulai mengalami kemun-duran karena pengaruh <i>filsafat</i> gereja Katolik dan Kristen.	v				v			v			v		
5	the idea that the universe had no beginning-that there was never any moment at which it was created-became widely accepted. <i>It</i> was carried into the 20th century gagasan bahwa alam semesta tidak mempunyai awal— bahwa tidak pernah ada momen ketika jagat raya di-ciptakan—secara luas diterima. <i>Pandangan</i> ini diba-wa ke abad ke-20	v				v			v			v		
6	Just like the fading of a train's whistle as <i>it</i> moves away from the observer Seperti suara peluit kereta yang semakin samar ketika <i>kereta</i> semakin jauh dari pengamat	v				v			v			v		
7	Robert Wilson discovered a form of radiation hitherto unnoticed. Called "cosmic background radiation", <i>it</i> was unlike anything coming from anywhere else in the universe Robert Wilson menemukan sebentuk radiasi yang selama ini tidak teramati. Dise-but "radiasi latar belakang kosmik", <i>radiasi</i> ini tidak seperti apa pun yang berasal dari seluruh alam semesta	v				v	-		v			v		
8	It was neither localized nor did it have a definite source; instead, it was distributed equally <i>everywhere</i> . Radiasi ini tidak dibatasi, juga tidak mempunyai sumber tertentu; alih-alih, radiasi ini tersebar merata <i>di seluruh jagat raya</i> .	-		v		v			\mathbf{v}			\mathbf{v}		

			Translation Quality assessment											
			chnique			A	Accuracy			Acceptability			Readabili	
No.	Sentence	Ex	Add	Ph	Ft	3	2	1	3	2	1	3	2	1
9	Observations indicated that the mix of these two elements in the universe was in accord with theoretical calculations of what should have been remained after the Big Bang. <i>That</i> drove													
	Pengamatan menunjukkan bahwa campuran kedua unsur ini di alam semesta sesuai dengan perhitungan teoretis dari apa yang seharus-nya tersisa setelah Dentuman Besar. 12 <i>Bukti itu</i> memberikan		v			v			v			v		
10	Notoriously, confession is good for the soul. I will therefore begin by confessing that the Stratonician atheist has to be embarrassed by the contemporary cosmological consensus. For it seems that the cosmologists are providing a scientific proof of what St. Thomas contended could not be proved philosophically; namely, that the universe had a beginning. ⁶ () Many scientists who do not force themselves to be atheists accept Jelas sekali, pengakuan itu baik bagi jiwa. Oleh karena itu, saya akan mulai dengan mengakui bahwa penganut ateis Stratonis harus merasa malu dengan konsensus kosmologis dewasa ini. Karena tampaknya para ahli kos-mologi menyediakan bukti ilmiah untuk apa yang dianggap St. Thomas tidak terbukti secara filosofis; yaitu, bahwa alam semesta mempunyai permulaan. ⁶ Selama alam semesta dapat dengan mudah dianggap tidak hanya tanpa akhir, namun juga tanpa permulaan, akan tetap mudah untuk mendesak bahwa keberadaannya yang tiba-tiba, dan apa pun yang ditemukan menjadi ciri-cirinya yang paling mendasar, harus diterima sebagai penjelasan akhir. Meskipun saya mempercayai bahwa teori itu (alam semesta tanpa batas) masih benar, tentu saja tidak mudah atau nyaman untuk mempertahankan posisi ini di hadapan kisah Dentuman Besar. Banyak ilmuwan yang tidak mau memaksakan diri		v						v			v		
11	the laws of physics offer no reason why a contracting universe should explode again after collapsing into a single point: it ought to stay just as it is. Nor do <i>they</i> offer a reason why an expanding universe should ever begin to contract in the first place. ⁸ hukum-hukum fisika tidak bisa me-nerangkan mengapa alam semesta yang mengerut harus meledak lagi setelah runtuh ke dalam satu titik tunggal: ia harus tetap seperti apa ada-nya. <i>Hukum-hukum fisika</i> juga tidak bisa menerangkan mengapa alam semesta yang mengembang harus mulai mengerut lagi. ⁸	-	v			v			v			v		

			Amplifi	caation	L		Т	ransla	ation	Qual	ity ass	essme	nt	
			echnique			A	cura	acy	Acc	eptal	bility	Rea	dabi	lity
No.	Sentence	Ex	Add	Ph	Ft	3	2	1	3	2	1	3	2	1
12	the crucial point is that this cycle cannot go on for ever, as is claimed (). Calculations for this model show that satu hal penting adalah bahwa siklus ini tidak bisa berlanjut selamanya, seperti anggapan mereka. Perhitungan untuk model ini menunjukkan bahwa	v				V			v			V		
13	Calculations for this model show that each universe will transfer an amount of entropy to <i>its</i> successor. Perhitungan untuk model ini menunjukkan bahwa setiap alam semesta akan mentransfer sejumlah entropi kepada <i>alam semesta</i> berikutnya.	v				V			v			V		
14	our universe is interpreted as a subatomic particle in a bigger <i>one</i> . alam semesta kita diinterpretasikan sebagai partikel subatomik di dalam <i>partikel</i> yang lebih besar.	v				v			v			V		
15	In conclusion, the truth disclosed by science is this: Matter and time have been brought into being by Allah, possessor of immense power and unbound by neither time nor matter. The Signs in the Qur'an Sebagai kesimpulan, kebenaran yang terungkap oleh ilmu alam adalah: Materi dan waktu telah dimunculkan menjadi ada oleh pemilik kekuatan besar yang mandiri, oleh Pencipta. Allah, Pemilik kekuatan, pengetahuan, dan kecerdasan mutlak, telah menciptakan alam semesta tempat tinggal kita. Tanda-Tanda Al Quran			v		v			v			v		
16	science has proven an assertion hitherto supported only by religious sources. <i>This truth</i> is the reality reality of Creation from nothingness. ilmu alam telah membuktikan pandangan yang selama ini hanya didukung oleh sumber-sumber agama. <i>Kebenaran yang dipertahankan oleh sumber-sumber agama</i> adalah realitas penciptaan dari ketiadaan.			v		v			v			v		
17	This has been declared in the holy books that have served as guides for mankind for thousands of years.()In the only book revealed by Allah Ini telah dinyatakan dalam kitab-kitab suci yang telah berfungsi sebagai penunjuk jalan bagi manusia selama ribuan tahun. Dalam semua kitab suci seperti Perjanjian Lama, Perjanjian Baru, dan Al Quran, dinyatakan bahwa alam semesta dan segala isinya diciptakan dari ketiadaan oleh Allah.Dalam satu-satunya kitab yang diturunkan Allah		v						v			v		
18	But how could matter have formed organized galaxies if <i>it</i> had been dispersed randomly? Namun, bagaimana materi membentuk galaksi-galaksi yang teratur seandainya <i>materi</i> itu tersebar secara acak?	v				v			v			v		

			Amplifi				T	ransl	ation	Qual	ity as	sessm	ent	
		te	chnique	criter	a	A	ccura	ıcy	Acc	eptal	bility	Re	adab	ility
No.	Sentence	Ex	Add	Ph	Ft	3	2	1	3	2	1	3	2	1
19	If the attractive force had been greater than the explosive, the universe would have collapsed. If the opposite had been true	T 7							•			• •		
	Jika kekuatan gaya tarik lebih besar daripada kekuatan ledakan, alam se-mesta hancur bertubrukan. Jika terjadi sebaliknya	\mathbf{V}				v			V			V		
20	What then does such a remarkable equilibrium as this indicate? The only rational answer to that question is that <i>it</i> is proof of Creation													
	Lalu, apa yang diindikasikan keseimbangan yang begitu luar biasa ini? Satu-satunya jawaban rasional untuk pertanyaan itu adalah bahwa <i>keseimbangan</i> itu merupakan bukti rancangan	V				V			V			V		
21	The only rational answer to that question is that it is proof of ()Creation and cannot possibly be accidental.		••						v			v		
	Satu-satunya jawaban rasional untuk pertanyaan itu adalah bahwa 23 keseimbangan itu merupakan bukti rancangan <i>sadar</i> dan tidak mungkin ketidaksengajaan.		v						v			v		
22	Despite his own materialist bent, Dr Davies admits this himself:			x 7		•			τ,			•		
	Dr. Davies mengakui sendiri hal ini, meskipun kecen-derungannya tetap mengarah pada materialisme:			V					V			V		
23	Immediately after the Big Bang, forces that underpin and organize the universe we <i>live</i> in had to be numerically "just right" otherwise there would have been no universe.													
	Segera setelah Dentuman Besar, gaya-gaya yang menopang dan mengatur alam seme- sta <i>tempat</i> kita tinggal harus "tepat benar" secara numerik, karena kalau tidak, alam semesta tidak akan terbentuk.	V				V			V			V		
24	The difference between the strongest (strong nuclear force) and the weakest (gravitational force)If the <i>strong force</i> had been just slightly weaker	v				•			•			\mathbf{v}		
	Selisih antara yang terkuat (gaya nuklir kuat) dan yang terlemah (gaya gravitasi)Jika gaya <i>nuklir</i> kuat sedikit lebih lemah saja	V							V			V		
25	Astronomy leads us to a unique event, a universe which was created out of nothing, one with the very delicate balance					τ,						•		
	Astronomi mengarahkan kita pada sebuah peristiwa unik, alam semesta yang diciptakan dari ketiadaan, <i>alam semesta</i> dengan keseimbangan	V				V			v			V		

			Amplific				Т	ransla	ation	Qual	lity ass	essm	ent	
		te	chnique	criter	ia	A	ccura	ıcy	Acc	epta	bility	Rea	adabi	ility
No.	Sentence	Ex	Add	Ph	Ft	3	2	1	3	2	1	3	2	1
26	one with the very delicate balance needed to provide exactly the conditions required to permit life, and one which has underlying plan. ²⁵ () The scientists we have just quoted alam semesta dengan keseimbangan sangat rumit yang diperlukan untuk menyediakan kondisi tepat bagi kehidupan, dan alam semesta yang mempunyai rencana dasar ²⁵ (bisa dikatakan "super-nasional"). Ilmuwan-ilmuwan yang baru saja dikutip	-	v						v			v		
elimi nated	Examining and thinking about the incredible balances and their beautiful order in the universe inevitably leads <i>one</i> to a truth:								τ,			• •		
	Mengkaji dan memikirkan keseimbangan luar biasa dan keteraturan yang indah dalam ran-cangan alam semesta tak pelak lagi mengarahkan <i>seseorang</i> pada kebenaran:]				v			V			V		
27	and all the other variables that we will be examining in the chapters ahead and <i>which</i> are vital for existence have been arranged according to an extraordinary precision.													
	dan semua variabel lain yang akan kita bahas dalam bab-bab selanjutnya, <i>yang kesemuanya</i> vital untuk keberadaan alam semesta, telah diatur dengan ketepatan luar biasa.	V							V			V		
28	the forces that make human life possible in this universe and all the other variables that we will be examining in the chapters ahead and which are vital for <i>existence</i> have been arranged according to an extraordinary precision. gaya-gaya yang memungkinkan manusia hidup di alam semesta ini dan semua variabel lain yang akan kita bahas dalam bab-bab selanjutnya, yang kesemuanya vital untuk keberadaan <i>alam semesta</i> , telah diatur dengan ketepatan luar biasa.	v				v			v			v		
29	Let us now make a brief <i>digression</i> and consider the coincidence theory of materialism.					.								
	Mari kita menyimpang sebentar <i>dari pokok bahasan</i> dan mem-pertimbangkan teori kebetulan materialisme.	V				v			V			V		
30	It is hard even to imagine what this number means. In math, the value 10 ¹²³ means 1 followed by 123 zeros. (<i>This</i> is, by the way, more than					v						•		
	Membayangkan arti angka itu saja sudah sulit. Dalam matematika, nilai 10^{123} berarti 1 diikuti dengan 123 nol (<i>angka</i> ini jauh lebih besar dari	V							v			V		

			Amplifi				Тı	ransla	ation	Qual	ity ass	essm	ent	
		te	chnique	e criteri	a	A	ccura	ксу	Acc	epta	bility	Re	adab	oility
No.	Sentence	Ex	Add	Ph	Ft	3	2	1	3	2	1	3	2	1
31	In practical terms, in mathematics, a probability of 1 in 10 ⁵⁰ means "zero probability". Penrose's number is more than trillion trillion trillion times less than <i>that</i> . In short, Penrose's number tells us Untuk praktisnya, dalam matematika, probabilitas 1 dalam 10 ⁵⁰ berarti "probabilitas nol". Angka Penrose lebih besar daripada triliun triliun triliun kali <i>angka tersebut</i> . Dengan kata lain, angka Penrose menyatakan	v				v			v			v		
32	Even if we were to write a 0 on each separate proton and on each separate neutron in the entire universe-and we could throw in all the other particles <i>for good measure</i> -we should fall far short of writing down <i>the figure</i> needed. ²⁶ Bahkan jika kita menuliskan sebuah nol pada setiap proton dan setiap neutron di seluruh jagat raya-dan kita bisa menggunakan partikel-partikel lain selebihnya-kita tetap saja kekurangan tempat untuk menuliskan <i>semua</i> nol yang diperlukan. ²⁶	v				v			v			v		
33	The numbers defining the order and plan of the universe's equilibrium play a crucial role and exceed <i>comprehension</i> . They prove Angka-angka yang menentukan rancangan dan rencana keseim-bangan alam semesta memainkan peranan penting dan melampaui pemahaman <i>manusia</i> . Mereka membuktikan	v				v			v			v		
34	They prove that the universe is by no means the product of a <i>coincidence</i> , and show us Mereka membuktikan bahwa alam semesta bukan hasil <i>peristiwa</i> kebetulan, dan menunjukkan	v				v			v			v		
35	The anthropic principle that we mentioned before reveals every detail of a universe that has been created for mankind to live in and in which <i>there is no place for chance</i> . The remarkable part is Prinsip antropi yang telah disebutkan sebelumnya mengungkapkan bahwa setiap detail alam semesta telah dirancang bagi manusia untuk hidup di dalamnya <i>dan bahwa tidak mungkin itu terjadi secara kebetulan</i> . Yang menarik adalah			v		v			v			v		
elimi nated	Scientists such as Paul Davies, Arno Penzias, Fred Hoyle and Roger Penrose are not pious men and they certainly had no intention													
	Ilmuwan seperti Paul Davies, Arno Penzias, Fred Hoyle, dan Roger Penrose bukanlah orang-orang yang taat <i>beragama</i> dan mereka tentu saja tidak bertujuan													

			Amplifi				Т	ansla	tion (Qual	ity ass	essm	ent	
		t	echnique	e criter	ia	A	cura	icy	Acc	eptal	oility	Re	adab	oility
No.	Sentence	Ex	Add	Ph	Ft	3	2	1	3	2	1	3	2	1
36	they certainly had no intention of proving Allah's existence as they pursued their work. But () they all reached the conclusion that-although some are unwillingly-universe is created by a superior power. mereka tentu saja tidak bertujuan membuktikan keberadaan Allah ketika mereka melakukan pekerjaan mereka. Orang dapat membayangkan bahwa mereka mencapai kesimpulan tentang		v						\mathbf{v}			v		
37	rancangan alam semesta karena kehendak Mahakuasa yang tidak mereka sadari. we have stumbled upon scientific proof of the existence of a Supreme Being? Was it God Who so providentially crafted the cosmos for our benefit? ²⁷			v		v			x,			τ,		
	kami mendapatkan bukti ilmiah akan kehadiran Zat Mahaagung? Apakah itu Tuhan <i>yang turun tangan dan berkenan</i> menciptakan kosmos untuk keun-tungan kita? ²⁷			v		v			V			V		
38	If the world's finest minds can unravel only with difficulty the deeper workings of nature, how could <i>it</i> be supposed that those workings are merely a mindless accident, a product of blind chance?	v				v			\mathbf{v}			v		
	Jika pemikiran paling cemerlang di dunia hanya dapat dengan susah payah menguraikan kerja alam yang misterius, bagaimana mungkin <i>kerja alam</i> itu hanya merupakan suatu kebetulan tanpa pemikiran, atau sebuah produk peristiwa acak?	v				v			v			v		
39	the universe that emerged from the Big Bang could have been much different from the <i>one that</i> <i>did emerge-ours</i> . For example			x 7		•			•			•		
	alam semesta yang muncul dari Dentuman Besar bisa saja berbeda <i>dengan alam semesta yang</i> <i>sudah terbentuk alam semesta kita.</i> Misalnya			V		V			V			V		
elimi nated	The elements were formed as a result of a <i>reduction</i> in the universal entropy that was causing matter to scatter everywhere.													
	Kedua unsur itu terbentuk seba-gai hasil reduksi/ <i>pengurangan</i> dalam entropi alam semesta yang menye-babkan materi tersebar ke mana-mana.													
40	the fundamental element of life, is a much heavier element than hydrogen and helium. How did <i>it</i> come into being?	v				x 7			x,			τ,		
	unsur dasar kehidupan, adalah unsur yang jauh lebih berat daripada hidrogen dan helium. Bagaimana <i>unsur</i> tersebut terbentuk?	V				v			V			V		
41	Searching for an answer to this question, scientists stumbled upon one of the most surprising discoveries of this century.					•						τ,		
	<i>Ketika</i> mencari jawaban untuk pertanyaan itu, para ilmuwan ter-sandung pada sebuah penemuan paling mengejutkan di abad ini.	v				V			v			V		

		Ampl	lificaatio		nique		Tr	ansla	ation	Quali	ity ass	essm	ent	
			crite	ria		A	cura	icy	Acc	eptal	bility	Rea	adab	oility
No.	Sentence	Ex	Add	Ph	Ft	3	2	1	3	2	1	3	2	1
42	Mendeleyev, the elements in the periodic table are arranged according to their atomic structures. Hydrogen occupies the first place in the table because <i>it</i> is the simplest of all the elements, Hidrogen menempati posisi pertama dalam tabel karena <i>hidrogen</i> adalah unsur paling sederhana	v				v			\mathbf{v}			v		
43	Another particle present in the nucleus of an atom is the neutron. Unlike protons, neutrons do not carry an electrical charge: they are neutral in other words, <i>hence their name</i> . The third basic particle of which atoms are composed is the electron Partikel lain yang terdapat di dalam inti atom adalah neutron. Tidak seperti proton, neutron tidak membawa muatan listrik: dengan kata lain mereka bermuatan netral, <i>sehingga diberi nama neutron</i> . Partikel dasar ketiga yang membangun atom adalah elektron			v		v			v			v		
44	Changing iron (with twenty-six protons) into silver (with eighteen) would require removing eight protons from the nucleus. But protons are bound together by the strong <i>nuclear</i> force and the number of protons in a nucleus can be changed only in nuclear reactions. Mengubah besi (dengan 26 proton) menjadi perak (18 proton) akan mengharuskan penyingkiran delapan proton dari nukleus. Namun proton terikat jadi satu oleh gaya <i>inti/</i> nuklir yang kuat dan jumlah proton dalam nukleus hanya bisa diubah dengan reaksi nuklir.	v				v			v			v		
45	Astronomers believe that solar-type stars (of which the Sun is one) are formed as a result of nebulae (<i>clouds</i>) of hydrogen and helium gas being compressed until the hydrogen-to-helium thermonuclear reaction gets started. Para ahli astronomi percaya bahwa bintang seje-nis matahari terbentuk dari nebula (awan <i>kosmis</i>) yang terdiri dari hidro-gen dan helium yang dimampatkan sampai reaksi termonuklir hidrogenmenjadi-helium terjadi.	v				v			v			v		
46	But as we said: it's not easy. It's nearly impossible to persuade two helium atoms to join together and quite impossible for <i>three</i> . So how do the six protons needed for carbon get together? Namun seperti kami sebutkan, ini tidaklah mudah. Hampir tidak mungkin untuk menggabungkan dua atom helium, dan sangat tidak mungkin menggabungkan tiga <i>atom</i> . Lantas, bagaimana enam proton yang diperlukan karbon dapat bergabung?	v				v			v			v		
47	The child sits on the swing and you give him a push to get him started (). To keep the swing moving, you have to keep pushing it from behind. Si kecil duduk di atas ayunan dan Anda mendorongnya untuk memulai <i>ayunan</i> . Untuk menjaga ayunan terus mengayun, Anda harus mendorongnya dari belakang.	v				v			v			v		

		Amp	lificaatio	on tech	nique		T	ransl	ation	Qua	lity ass	sessm	ent	
			crite			A	ccura	су	Aco	cepta	bility	Re	adab	oility
No.	Sentence	Ex	Add	Ph	Ft	3	2	1	3	2	1	3	2	1
48	If one of these violins is played in the same room as <i>the other</i> , the strings of the second will vibrate and produce a sound even though nobody is touching it.	• •							.			•		
	Jika salah satu dari biola ini dimainkan di dalam satu ruangan dengan <i>biola yang lain</i> , senar biola kedua akan bergetar walaupun tidak ada seorang pun yang menyen-tuhnya.	V				v			V					
49	Every atomic nucleus has a natural energy level that physicists have been able to identify after lengthy study. These energy levels are quite different from <i>one another</i> but a few rare instances of resonance between atomic nuclei have been observed. Setiap inti atom memiliki tingkat energi alamiah yang telah berhasil diketahui setelah penelitian panjang para ahli fisika. Tingkat energi ini sangat berbeda antara <i>satu atom</i> dan <i>atom yang lain</i> , namun dalam beberapa kejadian	v				v			v			v		
50	The important point of this is that the resonance expedites nuclear reactions that can affect the nuclei. ³⁵ ³⁵). The resonance mentioned here occurs as follows: when two atom nuclei fuse, the new emerging nucleus both takes on the total of the massive energy of the two nuclei forming it and their kinetic energy. This new nucleus works to reach a particular energy level within the atom's natural energy ladder. However, this is only possible if the total energy it receives corresponds to this level of energy. If it fails to correspond, then the new nucleus decomposes at once. For the new nucleus to attain stability, the accumulated energy in its body and the level of natural energy it forms should be equal to each other. When this equality is attained the "resonance" occurs. However this resonance is a highly rare harmony with a very low probability to be achieved. Hal yang penting dari kejadian ini adalah resonansi mendorong reaksi nuklir yang mempengaruhi inti atom. ³⁵ resonansi yang disebutkan disini terjadi sebagai berikut: ketika dua inti atom bergabung, inti- inti yang baru muncul tersebut masing-masing menerima total energi yang sama besar dan kedua inti yang membentuknya dan energi alamiatom. Tetapi ini hanya bisa terjadi jika energi total yang diterimanya sesuai dengan tingkat energi tersebut. Jika tidak sesuai, maka inti baru ini akan meluruh seketika. agar inti baru mencapai kestabilan, energi yang terakumulasi di dalamnya dan tingkat energi in merupakan keserasian yang sangat jarang terjadi atu bere herupakan keserasian yang sangat jarang terjadi terjadi terjadi sebagai.				v	V			v			v		

		Ampl	lificaatio	on tech	nique		Tr	anslz	tion	Qual	ity ass	essm	ent	
			crite	eria		A	cura	icy	Acc	epta	bility	Re	adab	oility
No.	Sentence	Ex	Add	Ph	Ft	3	2	1	3	2	1	3	2	1
51	The idea of such a precise resonance occurring once was hard enough to accept; that <i>it</i> should occur twice was unthinkable.	T 7				•						•		
	Gagasan resonansi selaras yang terjadi sekali saja sudah sulit untuk diterima; apalagi <i>resonansi</i> tersebut terjadi dua kali, sama sekali tidak terpikirkan.	\mathbf{V}				\mathbf{V}			v			V		
52	Upon this our existence, and that of every life form in the universe, <i>depends</i> . ³⁶			v		v			x,			τ,		
	Keberadaan kita, dan seluruh ben-tuk kehidupan di alam semesta, <i>bergantung pada proses ini.</i> ³⁶			V					V			V		
elimi nated	Hydrogen, the input element for this reaction, is the simplest element in the universe for its nucleus consists of a single proton. In a helium nucleus, <i>there are</i> two protons and two neutrons.													
	Hidrogen, unsur masukan reaksi ini, adalah unsur paling sederhana di alam semesta dengan hanya memiliki proton tunggal dalam intinya. <i>Inti helium</i> memiliki dua proton dan dua neutron.													
53	the strong nuclear force is just barely strong enough to do what it does. If it were even slightly weaker than it is, <i>it</i> would not be able to unite the two nuclei.											_		
	sebegitu kuatnya gaya nuklir kuat ini, namun ha-nya cukup kuat untuk melakukan tepat apa yang selama ini telah dila-kukannya. Jika hanya sedikit lebih lemah, maka <i>gaya</i> ini tidak mampu menyatukan dua inti.	V				V						V		
54	Sun's fuel would suddenly become very good indeed. It would become so powerful	v				\mathbf{v}			•			τ,		
	bahan bakar matahari tiba-tiba akan menjadi sangat ampuh. <i>Matahari</i> dalam keadaan ini akan begitu kuat	V							V			V		
55	So far, so much basic chemistry. However there is a point in this seemingly simple structure that is overlooked by <i>many</i> . A proton is much bigger than an electron in terms of both size and weight.	v				v			1			τ,		
	Sejauh ini, begitu banyak perihal kimia dasar. Namun terdapat satu hal dalam struktur yang kelihatan sederhana ini yang diabaikan <i>banyak orang</i> . Proton jauh lebih besar daripada elektron dari sisi ukuran dan berat.	V				V			V			v		
56	A huge star destroys itself in an immense blast and the material of its core is scattered in every direction. The light produced during this event is a thousand times brighter than <i>normal</i> .													
	Sebuah bintang raksasa menghancurkan diri dalam ledakan dahsyat, dan materi intinya bertebaran ke seluruh penjuru. Cahaya yang dihasilkan dalam peristiwa ini ribuan kali lebih terang daripada <i>keadaan</i> normal.	v				v						v		

			mplific				1	[ran s]	ation	Qual	ity ass	essme	ent	
		tec	hnique	criter	ia	A	ccur	acy	Ace	ceptal	bility	Re	adab	ility
No.	Sentence	Ex	Add	Ph	Ft	3	2	1	3	2	1	3	2	1
57	According to this hypothesis, our solar system, the Sun and its planets including Earth, are the products of some incredibly <i>ancient</i> supernova. Although supernovas may seem to be ordinary explosions Menurut hipotesis ini, tata surya kita, matahari dan planetnya termasuk bumi, merupakan	-		v		v			v			v		
	produk supernova yang terjadi dahulu kala. Meskipun supernova tampak seperti ledakan biasa													
58	The distances between supernovae and indeed between all stars is critical for other reasons. ()If the distance between stars in our galaxy was much less, planetary orbits would be destabilized. If it was much more		v											
	Jarak antarsupernova dan bahkan antar semua bintang sangat penting untuk alasan yang lain. Jarak antarbintang dalam galaksi kita adalah sekitar 30 juta tahun cahaya. Jika jarak ini lebih dekat		V						v			v		
59	The enormous distances between the universe's stars and galaxies moderate the risk that such an explosion will affect <i>other bodies</i> . The ratio of supernovas and stars' distances are just two more			v		•			•			•		
	Jarak yang luar biasa jauh antar bintang dan galaksi di alam semesta memperkecil risiko yang diakibatkan ledakan tersebut terhadap <i>benda-benda alam semesta lainnya</i> . Perbandingan antara supernova dan jarak antarbintang hanyalah dua detail lain			V					V			V		
60	and an uncounted number of asteroids all revolving around a single star called "Sun", a middle- sized star compared with <i>others</i> in the universe. Earth is the third planet from the Sun.	•				•			•			• • •		
	serta tak terhitung aste-roid, yang semuanya mengitari bintang yang disebut "Matahari"— sebu- ah bintang berukuran sedang dibandingkan <i>bintang lainnya</i> di alam semesta. Bumi adalah planet ketiga dari matahari.	V										V		
61	The planet Earth is a part of the solar system. In this system there are nine major planetsLet us first try to understand the size of this <i>system</i> . The diameter of the Sun is 103 times that of the Earth	• •				τ,			•			• •		
	Bumi adalah bagian dari tata surya. Dalam sistem ini, terdapat sem-bilan planetMarilah kita coba memahami seberapa besar <i>sistem tata surya</i> . Dia-meter matahari adalah 103 kali diameter bumi	V										V		
62	the Sun would be about the size of soccer ballSome of the objects representing the outer planets would have to be set several kilometers <i>away</i> . Big though this might seem,	v							v			v		
	maka matahari sebesar bola sepakBenda yang mewakili planet terluar harus diletakkan beberapa kilometer <i>dari bola sepak</i> . Meskipun tampak begitu besar,	v				v			V			v		

		Amp	lificaatio	on tech	nique		Т	ransla	ation (Quali	ity ass	essm	ent	
			crite	eria		A	ccura	acy	Acc	eptal	bility	Re	adab	oility
No.	Sentence	Ex	Add	Ph	Ft	3	2	1	3	2	1	3	2	1
63	Keeping to the same scale, the two balls should be 280 meters apartThe star nearest to the Sun is Alpha Centauri. If we wanted to add Alpha Centauri in our <i>model</i> system													
	Dengan perbandingan yang masih tetap, maka jarak antara bola sepak dan kelereng adalah 280 meter Jika kita akan meletakkan Alpha Centauri ke dalam model tata surya kita <i>(bola dan kelereng)</i>	V				v						v		
64	Even the Milky Way is dwarfed by the vast size of the whole universe. It is just one of many galaxies-nearly 300 billion of them according to recent calculations.	v				•			•			τ,		
	Bahkan Bima Sakti itu kerdil dibandingkan dengan alam semesta yang luas. <i>Bima Sakti</i> hanyalah satu dari sekian banyak galaksi—300 miliar menurut perhitungan terakhir.					V			\mathbf{v}			V		
65	In short, the distribution of celestial bodies in space is exactly what <i>it</i> must be for human life to exist on our planet.	v				•			τ,			•		
	Ringkasnya, penyebaran benda-benda langit di alam semesta adalah <i>pengaturan</i> yang tepat bagi manusia untuk dapat hidup di planet ini.					V			V			V		
66	These huge spaces are the outcome of <i>a special</i> Creation and not a result of coincidence.			37					•			•		
	Ruang yang begitu besar ini adalah hasil dari rancangan yang disengaja dengan maksud tertentu dan bukan hasil peristiwa kebetulan.			V					\mathbf{v}			V		
67	If you abandon a car in some exposed place for a year or even a couple of months, you certainly wouldn't expect <i>it</i> be in just as good condition as you left it when you return.													
	Jika Anda meninggalkan mobil di tempat terbuka bertahun-tahun atau bahkan cuma beberapa bulan, ketika kebali, Anda pasti tidak bisa mengharapkan <i>mobil</i> Anda dalam kondisi seperti pada waktu Anda meninggalkannya.	V												
68	Immediately after the Big Bang, the universe was in precisely such a completely disorganized state as would exist if entropy had been <i>maximized</i> But that has changed													
	Segera setelah Dentuman Besar, alam se-mesta benar-benar dalam keadaan sama sekali tak beraturan seperti terjadi jika <i>entropi telah mencapai derajat paling tinggi</i> . Namun hal tersebut berubah			V					v			V		
elimi nated	(In astronomy, a primary is something that another body revolves <i>about</i> . The Earth's primary is the Sun; the Moon's primary is the Earth.)													
	(Dalam astronomi, benda primer adalah benda yang dikitari <i>oleh benda lainnya.</i> Benda primer bumi adalah matahari, benda primer bulan adalah bumi).													

		Amp	lificaatio	on tech	nique		Tr	ransla	ation (Quali	ity ass	essm	ent	
			crite	eria	_	A	ccura	icy	Acc	eptal	bility	Re	adab	oility
No.	Sentence	Ex	Add	Ph	Ft	3	2	1	3	2	1	3	2	1
69	Moreover, this equilibrium has to be different for each body because the distance of planets to the Sun differs. So do their <i>masses</i> .	v							τ,					
	Lebih jauh, keseimbangan ini tentu berbeda untuk setiap benda angkasa, sebab jarak antara planet dan matahari berbeda-beda. Demikian juga <i>massa benda-benda langit ter-sebut.</i>					v						v		
70	Moreover, this equilibrium has to be different for each body because the distance of planets to the Sun differs. So do their masses. Therefore, <i>they</i> have to have different orbital speeds													
	Lebih jauh, keseimbangan ini tentu berbeda untuk setiap benda angkasa, sebab jarak antara planet dan matahari berbeda-beda. Demikian juga massa <i>benda-benda langit ter-sebut. Jadi, planet-</i> <i>planet</i> harus memiliki kecepatan yang berbeda	V				V								
71	even Earth's location in the galaxy is evidence that it was intended for mankind to live on	v				v			v			v		
	bahkan posisi bumi di galaksi merupakan bukti bahwa <i>bumi</i> diciptakan bagi manusia untuk hidup	ľ				v			•			v		
72	The reason that some people cannot understand this point is their own prejudice. But any objective mind () without prejudice will easily understand		• •						_					
	Alasan mengapa sebagian orang tidak dapat memahami hal ini adalah prasangka mereka sendiri. Namun pemikiran yang murni <i>berda-sarkan kenyataan</i> tanpa prasangka dapat dengan mudah memahami		V											
73	But any objective mind without prejudice will easily understand that the universe is created and organized for mankind to live in, just as is revealed:													
	Namun pemikiran yang murni berda-sarkan kenyataan tanpa prasangka dapat dengan mudah memahami bahwa alam semesta diciptakan dan dikendalikan <i>oleh Allah</i> bagi manusia untuk hidup, seperti yang diungkapkan di dalam Al Quran:	V				V						V		
74	But any objective mind without prejudice will easily understand that the universe is created and organized for mankind to live in, just as is <i>revealed</i> .													
	Namun pemikiran yang murni berda-sarkan kenyataan tanpa prasangka dapat dengan mudah memahami bahwa alam semesta diciptakan dan dikendalikan oleh Allah bagi manusia untuk hidup, seperti yang diungkapkan <i>di dalam Al Quran:</i>	V				V						V		
75	If you want to "land" on Saturn, you'd better produce your spaceship to be like an inflatable boat!													
	Jika Anda ingin "mendarat-kan" <i>pesawat</i> di Saturnus, Anda sebaiknya merancang pesawat Anda agar bisa seperti pelampung!	v				V								

		Amp	lificaatio	on tech	nique		Тı	ansla	ation	Qual	ity ass	essm	ent	
			crite	ria		A	ccura	су	Acc	eptal	bility	Rea	adab	oility
No.	Sentence	Ex	Add	Ph	Ft	3	2	1	3	2	1	3	2	1
76	Astronomers now know that it is an enormous storm system that has been raging in the Jovian atmosphere for centuries. It is big enough to swallow up a couple of planets the size of Earth whole. Ahli astronomi sekarang mengetahui bahwa ini adalah badai yang luar biasa kuatnya yang telah berkecamuk di atmosfer Jovian selama berabad-abad. Badai ini cukup besar untuk menelan beberapa planet seukuran bumi.	v				v			v			v		
77	With its hospitable atmosphere, surface features, ambient temperatures, magnetic field, and supply of elements and set just the right distance from the Sun, it is evident that it was specially created to be a home for life. () A Brief Digression and Warning About "Adaptation" Dengan atmosfer yang ramah, kondisi permukaan, suhu permukaan, medan magnet, ketersediaan		v						v			v		
78	unsur-unsur, serta posisi pada jarak yang tepat dari matahari, tampak seperti telah dirancang secara khusus untuk tempat hidup. Dan, seperti yang akan kita temukan, memang demikian adanya. Peralihan Topik Sesaat dan Peringatan tentang "Adaptasi" mechanisms of adaptation to natural conditions in living beings come into play only under certain													
	circumstances and <i>it</i> can never transform one species into another in detail in our other books. ⁵⁵ mekanisme adaptasi makhluk hidup terhadap kondisi alam hanya terjadi dalam suatu kondisi tertentu, dan <i>adaptasi</i> tidak pernah bisa mengubah suatu spesies menjadi spesies la-in—dalam buku kami yang lain. ⁵⁵	V				V			V			V		
79	Geography also helps distribute heat equally over the earth. Geografi <i>bumi</i> juga membantu menyebarkan panas secara merata di seluruh permukaan bumi.	v				v			v			v		
80	The probability of a forest fire being ignited increases by as much as 70 percent for every 1 percent increase in the percentage of oxygen in the atmosphere. ⁶⁰ () According to the British biochemist James Lovelock:		v						v			1		
	Kemungkinan kebakaran hutan tersulut naik 70% untuk setiap penambah-an 1% oksigen di atmosfer. ⁶⁰ Bahkan peningkatan 5% oksigen dalam atmosfer bumi akan menyebabkan kebakaran yang membinasakan sebagian besar hutan yang ada. Menurut ahli biokimia dari Inggris, James Lovelock:		v						V			V		
81	The cells of our body use this oxygen and release carbon dioxide into the blood, which conveys it back to the lungs where <i>it</i> is expelled. Sel tubuh kita menggunakan oksigen ini, dan me-lepaskan karbondioksida ke dalam darah, yang membawanya kembali ke paru-paru, di mana <i>sat</i> ini kemudian dikeluarkan.	v				v			v			v		

		Amp	lificaatio		nique		Tı	ransl	ation	Qual	ity ass	essm	ent	
			crite	ria		A	ccura	acy	Acc	eptal	oility	Re	adab	oility
No.	Sentence	Ex	Add	Ph	Ft	3	2	1	3	2	1	3	2	1
elimi nated	But that perfect structure depends on other factors: the density, <i>viscosity</i> , and pressure of air must all be right in order for the air to move properly in and out of our lungs.													
	Namun rancangan yang sempurna ini bergantung kepada faktor lain: kerapatan, viskositas <i>(kekentalan),</i> dan tekanan udara harus tepat agar udara dapat bergerak masuk dan keluar paru- paru dengan benar.		V									v		
82	In other words, the individual values of air's density, viscosity and pressure must all fall within certain limits in order for it to be breathable and <i>those</i> of the air	v				•			•			τ,		
	Dengan kata lain, nilai masing-masing kerapatan, visko-sitas dan tekanan udara harus berada dalam batas tertentu agar dapat digunakan untuk bernafas, dan <i>nilai-nilai tersebut</i> dalam udara								$ \mathbf{v} $			V		
83	. In other words, the individual values of air's density, viscosity and pressure must all fall within certain limits in order for it to be breathable and those of the air we breathe do exactly <i>that</i> .	T 7				τ,			τ,			•		
	Dengan kata lain, nilai masing-masing kerapatan, visko-sitas dan tekanan udara harus berada dalam batas tertentu agar dapat digunakan untuk bernafas, dan nilai-nilai tersebut dalam udara yang kita hirup adalah <i>nilai yang tepat.</i>	V										V		
84	On the other hand, if the pressure were much higher, the rate of water vaporization would be less, () turning large parts of the planet into desert.													
	Sebaliknya, jika tekanan jauh lebih tinggi, laju penguapan air akan turun. (Akibatnya air di laut tetap berada di laut, air di daratan akan mengalir ke laut), membuat sebagian planet menjadi gurun pasir.		V											
elimi nated	Examining the earth, we can make the list of the "essential factors for life" a long as we please.													
	Mempe-lajari bumi, kita dapat menyusun daftar <i>"faktor yang menentukan bagi kehidupan"</i> sepanjang yang kita mau.													
85	Recent research indicates that () sunlight has magnificent features that inspires amazement													
	Akan tetapi, apakah matahari hanya "kebetulan saja" memancarkan cahaya dan panas bagi kita? Apakah ini ketidaksengajaan dan tanpa terencana? Atau apakah matahari khusus dirancang bagi kita? Mungkin-kah bola api yang dahsyat di langit ini menjadi "lampu" raksasa yang diciptakan untuk memenuhi dengan tepat kebutuhan kita? Penelitian terkini menunjukkan bahwa jawaban untuk dua perta-nyaan terakhir adalah "ya". "Ya", karena pada sinar matahari ada rancangan yang memicu ketakjuban.		v						v			V		

		Amp	lificaatio		nique		Т	ransla	ation (Qual	ity ass	essm	ent	
			crite	ria		A	ccura	icy	Acc	eptal	bility	Re	adab	ility
No.	Sentence	Ex	Add	Ph	Ft	3	2	1	3	2	1	3	2	1
86	And just as the ripples created by the stone may have different heights and the distances between <i>them</i> may vary, electromagnetic radiation also has different wavelengths.	T 7							τ,					
	Riak air yang terbentuk oleh batu itu dapat memiliki ketinggian yang berbeda, dan jarak <i>antarpuncak riak</i> mungkin bervariasi pula.	V				v			V			v		
elimi nated	The analogy shouldn't be taken too far however because there are huge differences in the wavelengths of electromagnetic radiation. Some are several kilometers long while others are shorter than a billionth of a centimeter and the other wavelengths are to be found in <i>a smooth</i> , Namun, analogi ini sebaiknya tidak diambil terlalu jauh karena ada perbedaan yang sangat besar dalam panjang gelombang radiasi elektro-magnetik. Beberapa di antaranya memiliki panjang beberapa kilometer sedangkan lainnya lebih pendek dari sepermiliar sentimeter, dan panjang gelombang lain dapat ditemukan pada <i>spektrum kontinu</i>	-							v			v		
87	Some are several kilometers long while others are shorter than a billionth of a centimeter and the other wavelengths are to be found in a smooth, unbroken spectrum everywhere in <i>between</i> .	v				$ _{\mathrm{V}}$			τ,			τ.		
	Beberapa di antaranya memiliki panjang beberapa kilometer sedangkan lainnya lebih pendek dari sepermiliar sentimeter, dan panjang gelombang lain dapat ditemukan pada spektrum kontinu dan tanpa ter-sela di <i>antara kedua angka ini</i> .	V							V			V		
88	The radiation with the shortest wavelength (one-trillionth of a centimeter) for example is called "gamma rays": these <i>rays</i> pack tremendous amounts of energy.	v				τ,			τ,			τ.		
	Misalnya, radiasi dengan panjang gelombang terpendek (sepertriliun sentimeter) disebut "sinar Gamma"; sinar <i>Gamma</i> memiliki energi yang sangat besar.	V							V					
89	The longest wavelengths are called "radio waves": <i>they</i> can be several kilometers long but carry very little energy.	v				τ,			τ,			τ.		
	Panjang ge-lombang terpanjang disebut "gelombang radio"; <i>gelombang</i> ini panjang-nya mencapai beberapa kilometer namun membawa energi sangat kecil								V					
90	Light is a form of electromagnetic radiation that lies between these two <i>extremes</i> . The first thing to be noticed about the electromagnetic spectrum is											_		
	Cahaya adalah sebuah bentuk radiasi elektromagnetik yang terletak di antara kedua <i>ekstrem</i> panjang gelombang tersebut. Hal pertama untuk diperhatikan tentang spektrum elektromagnetik adalah			v		V			v					

		Amp	lificaatio	on tech	nique		Tr	ransla	tion	Quali	ity ass	essme	ent	
			crite	eria	-	A	cura	icy	Acc	eptal	bility	Rea	adab	oility
No.	Sentence	Ex	Add	Ph	Ft	3	2	1	3	2	1	3	2	1
91	The first thing to be noticed about the electromagnetic spectrum is how broad <i>it</i> is: the longest wavelength is 10 ²⁵ times the size of the shortest one. Hal pertama untuk diperhatikan tentang spektrum elektromagnetik adalah betapa lebarnya <i>spektrum tersebut</i> : Panjang gelombang terpan-jang adalah 10 ²⁵ kali ukuran panjang gelombang terpendek.	v				v			v			v		
92	Three kinds of light might seem quite enough but all three combined make up an almost insignificant section of the total spectrum. Tiga jenis cahaya itu tampaknya sudah cukup, namun gabungan ketiganya merupakan bagian yang hampir tidak berarti dibandingkan keseluruhan spektrum.	V				v			V			v		
93	In Energy and the Atmosphere, the British physicist Ian Campbell addresses this question and says "()That the radiation from the Sun (and from many sequence stars) Dalam buku Energy and the Atmosphere, fisikawan dari Inggris, Ian Campbell, menjawab pertanyaan ini dan menyatakan, "Sungguh luar biasa bahwa radiasi dari matahari (dan dari banyak rangkaian bintang)		v						v			v		
94	". If the energy is less than this threshold, the reaction will never start and if <i>it</i> is more, Jika energi kurang dari ambang batas ini, reaksi tidak akan pernah dimulai dan jika <i>energi</i> lebih besar	v				V			V			v		
95	When we look at this part of the light we see that a large part of solar radiation falling outside the range of visible light is in the section of the spectrum called "near infrared". ⁶⁸ Is infrared light good for anything? Ketika kita mengamati bagian cahaya ini, kita mendapati bahwa sebagian besar radiasi matahari yang jatuh di luar rentang cahaya tampak berada pada bagian spektrum yang disebut "inframerah-dekat". ⁶⁸ Selang Inframerah dekat meliputi sinar dengan panjang gelombang 0,70 mikron, di mana cahaya tampak berakhir, hingga 1,50 mikron. Apakah sinar inframerah berguna?				v	v			v			v		
96	Although overexposure to solar ultraviolet light has been shown to cause cancer and cellular mutations <i>it</i> has one vital benefit: Meski-pun paparan berlebihan terhadap sinar ultra-violet <i>matahari</i> telah terbuk-ti menyebabkan kanker dan mutasi sel, sinar ini memiliki satu manfaat:	V				V			V			V		
97	Although overexposure to solar ultraviolet light has been shown to cause cancer and cellular mutations, <i>it</i> has one vital benefit Meski-pun paparan berlebihan terhadap sinar ultra-violet matahari telah terbuk-ti menyebabkan kanker dan mutasi sel, <i>sinar</i> ini memiliki satu manfaat:	v				v			v			v		

		Amp	lificaati	on tech	nique		T	ransl	ation	Qual	ity ass	essme	ent	
			crite	eria	_	A	ccura	acy	Acc	eptal	bility	Rea	adabi	lity
No.	Sentence	Ex	Add	Ph	Ft	3	2	1	3	2	1	3	2	1
98	the ultraviolet light concentrated in such a <i>miniscule band</i> ⁵⁹ is needed for the synthesis of vitamin D in humans and other vertebrates. In other words, all the radiation emitted by the Sun is essential to life				• •									
	Sinar ultraviolet yang berada pada <i>pita</i> begitu <i>sempit</i> ini diperlukan u-ntuk pembentukan vitamin D pada manusia dan binatang bertulang bela-kang. ⁴⁹) Selang yang sempit ini meliputi sinar ultraviolet antara 0,29 mikron sampai 0,32 mikron. Dengan kata lain, semua radiasi yang dipancarkan oleh				V							v		
99	Vitamin D is necessary for the formation and nourishment of bone: without <i>it</i> , bones become soft or malformed	v				•			•			•		
	(Vitamin D penting untuk pembentukan dan makanan tulang: Tanpa <i>vitamin D</i> tulang menjadi lunak atau cacat	V							V			\mathbf{v}		
100	Photosynthesis is a chemical process whose name almost everyone who's ever gone to school will be familiar with. Most people however fail to realize how vitally important this process is for life on Earth or what a mystery <i>its</i> workings are.	v				•			•			•		
	Fotosintesis adalah sebuah proses kimia yang namanya dikenal hampir oleh semua orang yang pernah bersekolah. Tetapi, kebanyakan orang tidak menyadari betapa sangat pentingnya proses ini bagi kehi-dupan di atas bumi, atau misteri apa yang ada <i>di dalam proses ini.</i>	V							V			V		
101	If plants didn't release oxygen, the oxygen-breathers would eventually use up all the free oxygen in the atmosphere and that would be the end of <i>them</i> .													
	Jika tumbuh-tumbuhan tidak melepaskan oksigen, penghirup oksigen akhirnya akan menghabiskan semua oksigen dalam atmosfer, dan ini akan menjadi akhir bagi <i>makhluk-makhluk</i> <i>tersebut</i> .	V										v		
102	. This marvelous chemical reaction, which has never been duplicated in any laboratory, is taking place deep in the grass you step on and in trees.() It once occurred in the vegetables on your dinner plate.		v						•			•		
	Reaksi kimia yang mengagumkan ini, yang belum pernah ditiru laboratorium mana pun, terjadi pada rerumputan yang Anda injak, <i>dan pada pepohonan yang mungkin bahkan tidak pernah</i> Anda tengok. Ini juga pernah terjadi pada sayuran di atas piring makan malam Anda.		v						V			v		
103	When we study photosynthesis, we can't help but observe that there is a perfect balance between plant photosynthesis and the energy consumption of oxygen-breathers.													
	Yang menarik adalah betapa cermatnya rancangan proses fotosin-tesis ini. Ketika kita mempelajarinya, tidak akan luput dari pengamatan kita bahwa ada keseimbangan yang sempurna antara fotosintesis tum-buh-tumbuhan dan penggunaan energi oleh penghirup oksigen.			v		V			v			V		

		Amp	lificaatio	on techi	nique		Tı	ransla	ation	Qual	ity ass	essmo	ent	
			crite	eria		A	cura	icy	Acc	epta	bility	Rea	ıdab	ility
No.	Sentence	Ex	Add	Ph	Ft	3	2	1	3	2	1	3	2	1
104	that the plants use to make more glucose and oxygen. And so <i>it</i> goes on, a continuous cycle that is called the "carbon cycle" and it is powered by the energy of the Sun. Dan demikianlah pro-ses ini berlangsung, sebuah siklus berkesinambungan yang disebut	v				v			v			v		
	"sik-lus karbon", dan siklus ini digerakkan oleh energi dari matahari.	·							· ·					
105	A good analogy is that of a television set. In order for the set to receive () a given channel		v							• •		\mathbf{v}		
	Analogi yang bagus adalah sebuah televisi. Agar TV menerima saluran (gelombang) yang dikehendaki,		V							v		V		
106	A good analogy is that of a television set. In order for the set to receive a given channel <i>it</i> must be tuned to that channel; tune it differently													
	Analogi yang bagus adalah sebuah televisi. Agar TV menerima saluran (gelombang) yang dikehendaki, <i>TV</i> harus ditala pada saluran tersebut: Talakan TV pada saluran yang berbeda,	V				V						M		
107	After all, if the Sun were a different temperature () could not some other molecule, tuned to absorb light of a different colour, take the place of chlorophyll?													
	Bagaimanapun, andaikan matahari memiliki suhu berbeda <i>dengan suhunya saat ini</i> , bisakah molekul lain yang beradaptasi untuk menyerap cahaya dengan warna ber-beda menggantikan klorofil?		V									Y		
108	This perfect harmony is unquestionably proof of Creation. In other words, there is a single Creator,			v		v			τ,			τ,		
	Keharmonisan sempurna ini merupakan bukti nyata <i>rancangan yang disengaja dan direncanakan</i> . Dengan kata lain, terdapat Pencipta tunggal			V								V		
109	The retina contains cells that are light-sensitive. They are so sensitive that each can recognize when even a single photon strikes it.	v				v			•			•		
	Retina mengandung sel yang sensitif terhadap cahaya. <i>Sel</i> tersebut begitu sensitif sehingga setiap sel dapat mengenali sekalipun hanya sebuah fo-ton yang menimpa retina.	V										\mathbf{v}		
110	. The retina contains cells that are light-sensitive. They are so sensitive that each can recognize when even a single photon strikes <i>it</i> . The photon's energy activates a complex molecule	w				v			v			v		
	Retina mengandung sel yang sensitif terhadap cahaya. Sel tersebut begitu sensitif sehingga setiap sel dapat mengenali sekalipun hanya sebuah fo-ton yang menimpa <i>retina</i> . Energi foton mengaktifkan	v				v			V			v		

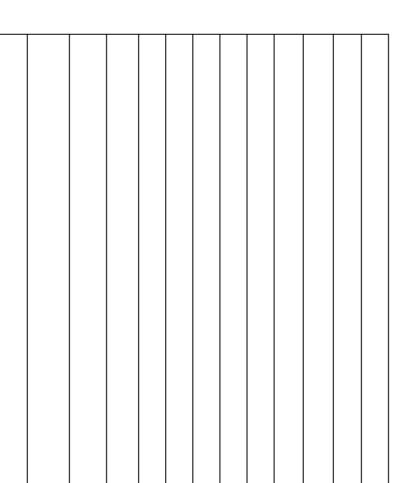
			Amplifi	caation			T	ransla	ation	Qual	ity ass	sessme	ent	
		te	chnique	e criteri	ia	A	ccura	acy	Acc	eptal	oility	Rea	dabi	lity
No.	Sentence	Ex	Add	Ph	Ft	3	2	1	3	2	1	3	2	1
111	The photon's energy activates a complex molecule called "rhodopsine", large quantities of which are contained in these cells. The rhodopsine in turn activates other cells and those activate still others in turn. ⁷² Eventually an electrical current is generated and this is carried to the brain by the optic nerves. ⁷³ . This chain reaction taking place in the syst is actually much more complicated. The light reaching the eye passes through the lens and falls upon the retina in the back. When light first strikes the retina a photon interacts with a molecule called 11-cis-retinal. The change in the shape of the retinal molecule forces a change in the shape of the protein, rhodopsin, to which the retinal it tightly bound. The protein's metamorphosis alters its behaviour. Now called metarhodopsin II, the protein sticks to another protein, called trans-ducin. Before bumping into metarhodopsin II, transducin had tightly bound a small mole-cule called GDP. But when transducin interacts with metarhodopsin II, the GDP falls off, and a molecule called GTP binds to transducin. It now binds to a protein called phosphodiesterase. When attached to metarhodopsin II and its entourage, the phosphodiesterase acquires the chemical ability to "cut" a molecule called GMP. Initially there are a lot of cGMP mole-cules in the cell, but the phosphodiesterase lowers its concentration, just as a pulled plug lowers the water level in a bathub. Another protein that binds cGMP is called an ion channel. It acts as a gateway that regulates the number of codMP is reduced because of cleavage by the phosphodiesterase, the ion channel cloaves of the ion channel closes, causing the cellular concentration of positively charged sodium ions to be reduced. Their causes an imbalance of charge across the cell membrane that, finally, causes a current to be transmitted down the optic nerve to the brain. The result, when in-terpreted by the brain, is vision. (Quoted from Michael Behe, Darwin's Black Box, New York: Free Press, 1990, pp. 18-21). This is actua				v	v			v			v		

is a very complicated and perfect mechanism which can never come about by evolution. The first requirement for this system to work is that the retina cell must be able to recognize when a photon strikes it...

Energi foton mengaktifkan "rhodopsin", suatu molekul kompleks yang banyak terkandung dalam sel retina. Se-lanjutnya rhodopsin mengaktifkan sel-sel lain, dan sel lain tersebut pada gilirannya mengaktifkan sel yang lain lagi.72 Akhirnya arus listrik dibang-kitkan dan diantarkan ke otak oleh syaraf optik 72), reaksi berantai di mata ini sesungguhnya jauh lebih rumit. Cahaya yang mencapai mata melewati lensa dan jatuh pada retina di bagian belakang. Ketika cahaya mengenai retina, sebuah foton berinteraksi dengan molekul yang disebuT 11-cis-retinal. Perubahan bentuk retina memaksa terjadinya perubahan bentuk protein, rhodopsin. Di rhodopsin inilah molekul retinal terikat kuat. Perubahan bentuk protein mengubah perilakunya. Setelah menjadi metarhodopsin II, protein ini melekat pada protein lain, transducin. Sebelum berikatan dengan metarhodopsin II transducin mengikat molekul kecil, GDP. Namum begitu transducin berinteraksi dengan metarhodopsin II, GDP terlepas , dan posisinya digantikan molekul GTP. Sekarang, dua protein dan sebuah molekul kimia terikat bersama dengan sebutan GTP- transducin-metarhodopsin II beserta ikatanya, phosphodiesterase memiliki kemampuan untuk 'memotong' molekul cGMP awalnya cGMP melimpah, namun kepadatannya menurut akibat phosphodiesterase, seperti halnya air di bak mandi berkurang ketika sumbat dilepas. Protein lain yang mengikat cGMP adalah kanal ion, bertindak sebagai opengatur jumlah ion sodium dalam sel. Lumrahnva Kanal ion meneizinkan ion sodium untuk menealir ke dalam sel . sementara protein lain dengan aktif memompa keluar lagi. Akzi ganda kanal ion dan protein lain ini menjaga kadar ion sodium dalam batasan yang sempit. Ketika jumlahcGMP berkurang disebabkan pemotongan oleh phosphodiesterase, kanal ion menutup. Menyebabkan konsentrasi ion sodium

bermuatan positif dalam sel berkurang. Hal ini menyebabkan ketidakseimbangan diantara membran sel, yang akhirnya, menyebabkan adanya arus dialirkan melalui saraf penglihatan ke otak . Hasilnya, ketika diterjemahkan oleh otak, adalah penglihatan (dikuti dari Michael Behe. Darwin's Black Box, New york: Free Press, 1996, hlm. 18-21).

Keterangan ini hanyalah penjelasan singkat dan penyederhannan tentang bagaimana kita melihat. Andaikan kejadiannya sperti ini, kita tiddak akan bisa melihat. Andaikan dalam sel hanya terjadi reaksi seperti itu, maka persedian 11-cis-retinal, cGMP dan ion sodium akan cepat habis. Begitu banyak mekanisme yang memungkinkan sel untuk kembali ke keadaan semula. Reaksi yang dijelaskan tersebut jauh dari penjelasan lengkap reaksi biokimia penglihatan dan hanya penyederhanaan. Bagaimanapun, penjelasan tersebut menunjukkan bahwa melihat merupakan mekanisme yang rumit dan sempurna, yang tidak mungkin muncul sebagai hasil evolusi. Persyaratan pertama agar sistem ini bekerja adalah sel retina tersebut harus mampu mengenali foton ketika menimpanya...



		Amp	lificaatio	on tech	nique		T	ransl	ation	Quali	ity ass	essme	ent	
			crite	eria		A	ccura	ıcy	Acc	eptal	bility	Rea	adabi	ility
No.	Sentence	Ex	Add	Ph	Ft	3	2	1	3	2	1	3	2	1
112	The photon's energy activates a complex molecule called "rhodopsine", large quantities of which are contained in these cells. The rhodopsine in turn activates other cells and <i>those</i> activate still others in turn. Energi foton mengaktifkan "rhodopsin", suatu molekul kompleks yang banyak terkandung dalam sel retina. Se-lanjutnya rhodopsin mengaktifkan sel-sel lain, dan <i>sel lain tersebut</i> pada gilirannya mengaktifkan sel yang lain lagi.	v				v			\mathbf{v}			v		
113	For that to happen, the photon must carry an exact amount of energy: if <i>it</i> is too much or too less, Agar terjadi, foton harus membawa jumlah energi yang sesuai: Jika <i>energi</i> tersebut terlalu banyak	v				v			v			v		
114	atau kurang For that to happen, the photon must carry an exact amount of energy: if it is too much or too less, <i>it</i> won't activate the formation of rhodopsine.	v				v			v			v		
	Jika energi tersebut terlalu banyak atau kurang <i>, foton</i> tidak akan mengaktifkan susunan rhodopsin.	v				v			v			v		
115	the energy levels of the Sun's radiation would also be higher and the Sun would be radiating much more destructive ultraviolet rays than <i>it</i> does.	v				•			•			•		
	tingkat energi radiasi matahari juga akan lebih besar dan matahari akan jauh lebih banyak meradiasikan sinar ultraviolet yang merusak daripada <i>sekarang ini.</i>	V										V		
116	Another interesting point concerning water is that the different colors of visible light are able to travel different distances in <i>it</i> . Below eighteen meters	v				τ,			•			•		
	Hal lain yang menarik tentang air adalah bahwa warna yang berbe-da dari cahaya tampak mampu menembus jarak yang berbeda dalam <i>air</i> . Lebih dari delapan belas meter											V		
117	The knowledge that is being gained through advances in science however is showing that, in every detail of the universe, there is an order and a plan which is created to make life possible. It is such an order that, even such a component as light, which we might never have thought about before, is so clearly "just right" that one can't help but be amazed.													
	Namun pengetahuan yang dicapai melalui kemajuan ilmu alam menunjukkan bahwa dalam setiap detail alam semesta, terdapat rancangan dan perencanaan dengan tujuan akhir kehidupan manusia. <i>Rancangan</i> yang demikian "tepat", sehingga bahkan satu unsur seperti cahaya, yang mungkin tidak pernah kita pikirkan sebelumnya, pasti akan menimbulkan ketakjuban.	V					v		v			v		

		Amp	lificaatio		nique		Т	ransla	ation	Qual	ity ass	essme	ent	
			crite	ria		A	ccura	icy	Acc	epta	bility	Rea	ıdabi	lity
No.	Sentence	Ex	Add	Ph	Ft	3	2	1	3	2	1	3	2	1
118	Can these really all be coincidences? Such extraordinary fine-tuning as this can be explained not by chance but only by <i>Creation</i> . This in turn shows us that the whole universe and all the details of that universe-including the light of the Sun that enables us to see Mungkinkah semua itu benar-benar kebetulan? Kesesuaian luar biasa seperti ini da-pat dijelaskan bukan dengan kebetulan, namun dengan rancangan <i>yang disengaja</i> . Ini pada gilirannya menunjukkan kepada kita bahwa seluruh alam semesta beserta seluruh detailnya	v				v			v			v		
119	This in turn shows us that the whole universe and all the details of that universe-including the light of the Sun that enables us to see and keeps us warm-have been specially created and arranged for life. Ini pada gilirannya menunjukkan kepada kita bahwa seluruh alam semesta beserta seluruh detailnya—termasuk sinar matahari yang memungkinkan kita melihat dan menjaga kita tetap hangat secara khusus telah diciptakan dan diperuntukkan bagi kita untuk hidup.	v				v			v			v		
120	Science shows that sunlight has been created for us, in other words, that <i>it</i> has been made to be "at our service". Ilmu alam menunjukkan bahwa cahaya matahari telah diciptakan untuk kita, dengan kata lain, <i>cahaya matahari</i> telah diciptakan untuk "melayani kita".	v				v			v			v		
121	This, as most other of the Atheists' Arguments, proceeds from a deep Ignorance of Natural Philosophy; for if there were but half the sea that <i>now is</i> Hal ini, seperti kebanyakan argumen ateis lainnya, berasal dari Kebutaan mendalam akan Filsafat Alamiah; karena andaikan laut hanya ada separo <i>dari kuantitasnya sekarang</i>	v				v			v			v		
122	Your body's cells contain many things but nothing so much as <i>water</i> . The biggest part of the blood that circulates everywhere in your body is of course water. Sel tubuh Anda mengandung pelbagai macam zat tetapi tak ada yang sebanyak <i>atau sepenting</i>	v				v			v			v		
123	air. Bagian terbesar dari darah yang beredar di setiap tem-pat dalam tubuh Anda tentu saja air. water contracts in volume as it grows colder but it only does this down to a certain temperature (4°C) thereafter-unlike all other known liquids- <i>it</i> suddenly begins to expand					• • •						• • •		
	volume air menyusut ketika suhunya turun, namun ini berlaku hanya sampai pada suhu tertentu (4OC) dan seterusnya— tidak seperti semua zat cair lainnya yang diketahui— <i>air</i> tiba-tiba mengembang	V							v			V		

			Amplifi	caatio	n		Тı	ansla	ation	Quali	ty ass	essme	ent	
			echniqu			A	ccura	icy	Acc	eptal	oility	Rea	ıdabi	lity
No.	Sentence	Ex	Add	Ph	Ft	3	2	1	3	2	1	3	2	1
124	According to the normal laws of physics, solid water, which is to say ice, ought to be heavier than liquid water and should sink to the bottom when <i>it</i> forms; instead, it floats.	• •							.					
	Menurut hukum fisika normal, air padat, yang disebut es, seharus-nya lebih berat daripada air cair, dan seharusnya tenggelam ketika menjadi es; namun ternyata, <i>es</i> mengapung.					v						v		
125	When these transitions are reversed (that is, when water freezes or vapor precipitates) heat is released. In physics the term "latent heat" is used to describe this. ⁷⁸ . The latent heat is the heat which does not change the heat of water but enables it to change it from solid state to liquid state or from liquid state to gas state. When you give heat to ice to melt it, the ice reaches to 0oC and no increase in heat occurs even if you continue to heat it. Yet, it is no longer ice; it dissolves and becomes water. This heat, which is needed to convert the solid state into the liquid state despite causing no difference in temperature is "latent" heat. The Effect of "Top-down" Freezing Ketika transisi tersebut dibalik (yaitu ketika air mem-beku atau uap mengembun, panas dilepaskan. Dalam fisika istilah "panas laten (latent heat)" digunakan untuk menggambarkan panas yang dilepas-kan tersebut. ⁷⁸) Panas Laeten adalah panas yang tidak mengubah panas air tetapi memungkinkannya mengubah diri dari bentuk padat menjadi cair atau dari bentuk cair menjadi gas. Ketika memanaskan es untuk mencairkannya, suhu es akan mencapai 0C dan tidak ada lagi kenaikan panas yang terjadi meskipun Anda harus memanaskannya, Namun, es itu tidak lagi menbentuk es; es itu larut dan menjadi air; Panas ini, yang diperlukan untuk mengubah padatan menjadi cairan yang tidak menyebakan perbedaan temperatur adalah panas "laten" Efek Pembekuan "Dari Atas ke Bawah "				v	v			v			v		
126	We should note here that the fifth property of water-the low thermal conductivity of ice and snow-is also crucial in this process. Because they are such poor conductors of heat	v				v			v			v		
	Perlu dijelaskan di sini bahwa sifat kelima air—daya hantar panas es dan salju yang rendah— juga penting dalam proses ini. Karena <i>es dan salju</i> merupakan penghantar panas yang buruk					Ĺ						·		
127	Creatures such as seals and penguins that dwell in polar regions can take advantage of <i>this</i> to reach the water beneath the ice.)					x ,						•		
	Makhluk seperti anjing laut dan pinguin yang hidup di daerah kutub dapat mengambil keuntungan dari <i>keadaan ini</i> untuk men-capai air di bawah es.)	V							v			V		

			Amplifi	caation	1		Т	ransla	ation	Quali	ity ass	essme	nt	
			chnique			A	ccura	ıcy	Acc	eptal	bility	Rea	ıdabi	ility
No.	Sentence	Ex	Add	Ph	Ft	3	2	1	3	2	1	3	2	1
128	This is a very critical temperature and absolutely has to be kept constant. If your body's temperature were to fall just a few degrees, many of its vital functions would fail. <i>If it rises</i> , as it does when we become ill Ini merupakan suhu kritis dan mutlak harus dijaga agar tetap konstan. Jika suhu tubuh Anda menurun hanya beberapa derajat, banyak fungsi vi-tal tubuh akan gagal. <i>Jika suhu tubuh meningkat meskipun hanya bebe-rapa derajat</i> , seperti yang terjadi ketika kita sakit	-		v		v			v			v		
129	However our body has a serious problem here: <i>it</i> is active all the time.	\mathbf{v}				v			v			v		
	kan tetapi, tubuh kita memiliki masalah serius: tubuh aktif setiap saat.	v				•			•			v		
130	Surface tension" is defined as a behavior of the free surface of a liquid to act like an elastic skin under tension. It is caused by attractive forces between the molecules in the surface of the liquid.													
	Tegangan permukaan" didefinisikan sebagai sebuah perilaku permu-kaan-bebas dari zat cair untuk menyerupai kulit elastis di bawah penga-ruh tegangan. <i>Perilaku</i> ini disebabkan oleh gaya tarik antara molekul-molekul dalam permukaan zat cair.	V				v			V					
131	The surface tension of water is much higher than that of any other known liquid.	x 7				.			x 7			* 7		
	Tegangan permukaan air jauh lebih tinggi daripada <i>tegangan</i> per-mukaan zat cair lain.					v			\mathbf{v}			\mathbf{v}		
132	This expansion exerts interior forces upon rock that causes it eventually to break up.	v				1			v			•		
	Pengembangan ini menimbulkan tekanan di dalam batu yang akhirnya menyebabkan <i>batu</i> pecah.	V							V			V		
133	The reason is that beyond that size, it is not possible for nutriments and oxygen to be diffused throughout the organism. That is, <i>they</i> can no longer be taken directly into the cell nor can their by-products be discharged. Hal ini karena pada ukuran le-bih dari itu, tidak mungkin makanan dan oksigen didifusikan ke seluruh tubuh organisme. Artinya, <i>makanan dan oksigen</i> tidak bisa lagi masuk secara langsung ke dalam sel, dan produk sampingannya pun tidak bisa dibuang begitu saja	v				v			v			v		
134	Cells more than 50 microns from a capillary will starve to death. This is why the human body was so created that the capillaries form a network that pervades <i>it</i> completely. Sel dengan jarak 50 mikron dari kapiler akan mati kela-paran. Itulah sebabnya tubuh manusia dicip-takan sedemikian rupa sehingga kapilernya membentuk jejaring yang menjangkau <i>se-mua</i> <i>sel</i> .	v				v			v			v		

			Amplifi				Tr	ansla	tion (Quali	ity ass	essm	ent	
			cinique	- criter	14	Ac	cura	cy	Acc	eptak	oility	Rea	adabi	lity
No.	Sentence	Ex	Add	Ph	Ft	3	2	1	3	2	1	3	2	1
135	If blood is going to penetrate passages that narrow without blocking them or slowing down, <i>it</i> certainly needs to be fluid	x 7				τ,						τ,		
	Jika darah akan menembus jalan sesempit itu tanpa terhambat atau melambat, maka <i>darah</i> harus cair,	V				V			v			V		
136	These chemical elements, the building-blocks from which our hands, eyes, hair, and organs as well as all the living things-plants and animals-that are our sources of food have been specially created to serve the exact purposes that they do. ()The most important of these building-blocks is carbon. Unsur-unsur kimia tersebut, unsur pembentuk tangan, mata, rambut, dan organ-organ kita, seperti halnya semua makhluk hidup-tanaman dan binatang-yang merupakan sumber makanan kita, telah dirancang secara khusus untuk memenuhi tujuan mereka semestinya. Fisikawan Robert E. D. Clark merujuk pada keberadaan rancangan khusus dan luar biasa dalam unsur pembentuk kehidupan ketika dia berkata: "Seolah Sang Pencipta telah memberi kita seperangkat bagian- bagian pracetak yang dibuat siap untuk bekerja.". Di antara unsur-unsur pembentuk, karbon adalah unsur vang paling penting.		v						V			v		
137	Carbon is unique among the elements in the number and variety of the compounds which it can form. Over a quarter of a million have already been isolated and described, but this gives a very imperfect idea of its powers, since <i>it</i> is the basis of all forms of living matter. ⁸⁷ Tusuk sepotong daging di ujung sebatang <i>logam</i> panjang, misal-nya besi dan panaskan keduanya di	v				v			v			v		
elimi nated	atas api. Stick a piece of meat on the end of a <i>long</i> , thin piece of metal such as iron and heat the two together over a fire.													
	Tusuk sepotong daging di ujung sebatang <i>logam</i> panjang, misal-nya besi dan panaskan keduanya di atas api.	1												
elimi nated	Such bonds are about twenty times weaker than covalent bonds, hence their name; but they are no less crucial to the processes of organic chemistry. <i>It</i> is due to this weak bonding that the proteins that make up the building-blocks of living things are able to maintain their complex and vitally important three-dimensional structures.													
	Ikatan ini sekitar dua puluh kali lebih lemah daripada ikatan kovalen, dari sinilah asal namanya; namun ikatan tersebut tidak kurang penting bagi proses-proses kimia organik. Berkat <i>ikatan yang</i> <i>lemah</i> ini, protein yang membangun unsur pembentuk makhluk hidup mampu menjaga struktur tiga dimensi yang rumit dan sangat vital.													

			Amplifi	caatio	n		T	ransl	ation	Qual	ity ass	essme	ent	
		te	chnique	e criter	ia	A	ccura	acy	Acc	epta	bility	Rea	adabi	lity
No.	Sentence	Ex	Add	Ph	Ft	3	2	1	3	2	1	3	2	1
138	To explain this, we have to talk briefly about the structure of proteins. Proteins are usually referred to as a "chain" of amino acids. While this metaphor is essentially correct, it is also incomplete. <i>It's</i> incomplete because for most people a "chain of amino acids" conjures up the mental image of something like a string of pearls whereas the amino acids that make up proteins have a three- dimensional structure more like a tree with leafy branches. Untuk menerangkannya, kita harus membahas secara ringkas struk-tur protein. Protein biasanya digambarkan sebagai sebuah "rantai" asam amino. Pada dasarnya pengandaian ini benar, namun tidak lengkap. <i>Pengandaian</i> ini tidak lengkap, karena bagi kebanyakan orang sebuah "rantai asam amino" dibayangkan sebagai suatu untaian mutiara sedang-kan asam amino yang menyusun protein memiliki struktur tiga dimensi yang lebih menyerupai sebatang pohon dengan cabang- cabang berdaun.	v				V			v			v		
139	This is rather odd because the physical and chemical natures of covalent bonds versus weak bonds are entirely different things and independent of one another. In other words, there's no intrinsic reason why they should both require the same temperature range. And yet <i>they</i> do: Both types of bonds can only be formed and remain stable within this narrow temperature range. Dengan kata lain, tidak ada alasan menga-pa ikatan-ikatan tersebut memerlukan kisaran suhu yang sama. Namun begitulah <i>kedua ikatan</i> tersebut: Kedua tipe ikatan tersebut hanya dapat terbentuk dan tetap stabil dalam kisaran suhu yang sempit itu.	v				v			v			v		
140	And if they did not-if covalent bonds required a range of temperatures wildly different from that of weak bonds, say-then <i>it</i> would be impossible to construct the complex three-dimensional structures that proteins require. Andaikan tidak—andaikan ikatan kovalen memerlukan kisaran suhu yang sangat berbeda dari ikatan yang lemah, misalnya—maka <i>ikatan</i> tersebut tidak akan mungkin membentuk struktur tiga dimensi rumit yang dibutuhkan protein.	v				v			V			v		
141	If our bodies are made up essentially of hydrocarbons, why aren't <i>they</i> also oxidized? Jika tubuh kita tersusun terutama oleh hidrokarbon, me-ngapa <i>hidrokarbon</i> dalam tubuh tidak	v				v			v			v		
142	teroksidasi juga? Our bodies are constantly in contact with the oxygen of the air and yet they don't oxidize: <i>they</i> don't catch fire. Why not? Tubuh kita secara terus-menerus berhubungan dengan oksigen da-lam udara namun tidak	v				v			v			v		

			Amplifi	caatio	1		T	ransla	ation	Quali	ity ass	essme	nt	
			chnique			A	ccura	юу	Acc	eptal	oility	Rea	Idabi	ility
No.	Sentence	Ex	Add	Ph	Ft	3	2	1	3	2	1	3	2	1
143	A catalyst is a substance that initiates a chemical reaction and allows <i>it</i> to proceed under different conditions (such as lower temperature etc) than would otherwise be possible. ⁹² Katalis adalah senyawa yang memulai sebuah reaksi kimia dan memungkinkan <i>reaksi</i> tersebut berlanjut dalam keadaan berbeda (misalnya suhu yang lebih rendah, dan lainlain) yang mestinya tidak mungkin apabila tanpa katalis. ⁹³	v				v			v			V		
144	A catalyst is a substance that initiates a chemical reaction and allows it to proceed under different conditions (such as lower temperature etc) than would otherwise be possible () ⁹² Katalis adalah senyawa yang memulai sebuah reaksi kimia dan memungkinkan reaksi tersebut berlanjut dalam keadaan berbeda (misalnya suhu yang lebih rendah, dan lain- lain) yang mestinya tidak mungkin <i>apabila tanpa katalis</i> . ⁹³	v				v			v			v		
145	 While we're on the subject we should also point out that this enzyme system is a marvellous example of Creation that no evolutionary theory holding that life developed as a result of chance events can ever hope to explain. ⁹³. The question of how the complicated enzyme system enabling oxygen intake by the respiratory system emerged is one of the questions the theory of evolution fails to explain. This system has an irreducible complexity, in other words, the system can not function unless all of its components function perfectly. For this reason, it is unlikely to say that the system developed from the simple form to the more complex, as evolution suggests. Prof. All Demirsoy, a biologist from Ankara Hacettepe University and a prominent advocate of the theory of evolution in Turkey, makes the following confession about this subject: "However, there is a major problem here. Mitochondria use a fixed number of enzymes stops the functioning of the whole system. Besides, energy gain with oxygen does not seem to be a system which can proceed step by step. Only the complete system performs its function. That is why, instead of the step by step development to which we have ad-hered so far as a principle, we feel the urge to embrace the suggestion that, all the en-zymes (Krebs enzyme) needed to perform the reactions of the mitochondria entered a cell all at once by coincidence or, were formed in that cell all at once. That is merely because those systems failing to use oxygen fully, in other words, those systems remaining in the intermediate level would disappear as soon as they react with oxygen." (All Demirsoy, The Basic Laws of Life: General Zoology, Volume 1, Section 1, Ankara, 1998, p.578). While the probability of the formation of only one of the enzymes 				v	v			v			v		

	coincidence" is 1 over 10950, it is certainly unreasonable to put forward that many en-						T	
	zymes of that sort formed by coincidence There is yet another precaution that has been							
	taken							
	Selagi dalam bahasan ini, perlu ditunjukkan pula bahwa sistem en-zim merupakan contoh							
	rancangan yang begitu mengagumkan sehingga teori evolusi yang menyatakan bahwa							
	kehidupan muncul kebetulan tidak akan pernah mampu menjelaskannya.							
	⁹⁴)Bagaimana sistem enzim yang rumit memungkinkan pemasukan oksigen oleh sistem							
	pernapasan yang muncul adalah salah satu pertanyaan yang gagal diterangkan oleh							
	teori evolusi. Sistem ini memiliki kerumitan yang tidak dapat disederhanakan. Dengan							
	kata lain, sistem tersebut tidak dapat berfungsi jika semua senyawanya tidak berfungsi							
	secara sempurna. Oleh karena iu, tidak mungkin sistem tersebut berkembang dari bentuk							
	sederhana menjadi bentuk yang lebih rumit, seperti yang dinyatakan teori evolusi. Prof.							
	Ali Demisrsoy, seorang ahli biologi dari Universitas Ankara Hacettepe dan seorang							
	pendukung terkemuka teori evolusi di Turki, membuat pengakuan tentang masalah							
	ini: "Namun, ada masalah besar disini. Mitokondria mengguanakan sejumlah tertentu							
	enzim dalam proses pemecahan (dengan oksigen). Ketidakhadiran salah satu saja enzin							
	tersebut menghentikan fungsi seluruh sistem. Selain itu, pertambahan energi dengan							
	oksigen agaknya bukan sistem yang dapat berjalan langkah demi langkah. Hanya sistem							
	lengkap yang dapat melakukan fungsinya. Itulah sebabnya, alih-alih perkembangan							
	selangkah demi selangkah yang selama ini kiata anggap sebagai prinsip, kami							
	merasakan desakan untuk menerima saran bahwa, semua enzim (enzim Krebs) ayang							
	diperlukan untuk menghasilkan reaksi mitokondria memasukui sebuah sel sekaligus							
	secara kebetulan, atau semuanya terbentuk di dalam sel itu secara bersamaan. Itu hanya							
	karena sistem-sistem itu, yang gagal menggunakan oksigen sepenuhnya, dengan kata							
	lain, yang tersisa pada level menengah , akan menghilang segera ketika mereka bereaksi							
	dengan oksigen." (Ali Demirsoy, The Basir; Laws of Life; General zoology, Volume 1,							
	Section 1, Ankara, 1998hlm.578). Sedangkan peluang pembentukan salah satu enzim saja							
	(protein Khusus) yang oleh prof. Demirsoy dikatakan; "Kita harus menerima bahwa							
	enzim tersebut tiba-tiba terbentuk secara kebetulan" adalah 1 berbanding 10950. Sangat							
	tidak masuk akal menyatakan bahwa banyak enzim seperti itu terbentuk secara kebetulan.							
	Terdapat pencegahan lain agar tubuh kita tidak terbakar							
146	Oxygen is, in fact, a rather dangerous substance: if an organism gets too much of it, the							
	result can be fatal.	v		v	v		v	
	Jika sebuah organis-me mendapatkan terlalu banyak <i>oksigen</i> , akibatnya bisa fatal.	v		V	V		V	
	the second second and the menor particular out of the one of the second							

			Amplifi	caatio	n		Т	ransla	ation	Quali	ity ass	essme	nt	
		te	chniqu	e criter	ia	A	ccura	icy	Ac	cepta	bility	Rea	adabi	lity
No.	Sentence	Ex	Add	Ph	Ft	3	2	1	3	2	1	3	2	1
147	If the water-solubility of oxygen were higher on the other hand, you would be confronted by the threat of oxygen toxicity, mentioned briefly above. Oxygen is, in fact, a rather dangerous substance: if an organism gets too much of it, the result can be fatal. Some of the oxygen in the blood enters into a chemical reaction with the blood's water. If the amount of dissolved oxygen becomes too high, the result is the production of highly reactive and damaging by-products. One of the functions of the complex system of blood enzymes is to prevent <i>this</i> from happening. Sebaliknya, jika daya larut oksigen dalam air lebih tinggi, Anda akan dihadapkan pada ancaman keracunan oksigen, yang dijelaskan di atas. Sebetulnya, oksigen merupakan zat yang berbahaya: Jika sebuah organis-me mendapatkan terlalu banyak oksigen, akibatnya bisa fatal. Sebagian oksigen dalam darah bereaksi dengan air darah. Jika jumlah oksigen yang terlarut terlalu tinggi, maka dihasilkan zat yang sangat reaktif dan merusak. Salah satu fungsi sistem enzim darah yang rumit adalah untuk mencegah <i>keracunan</i> itu terjadi.	v				v			v			v		
148	Three elements-arsenic, tin, and tungsten-are to be found in some living things where <i>they</i> perform functions that are not completely understood.	v				v			v			v		
	Tiga unsur—arsenik, timah, dan tungsten—ditemukan pada beberapa makhluk hidup di mana <i>unsur-unsur</i> tersebut melakukan fungsi yang tidak bisa benar-benar dipahami.	v				•			•			v		
149	Certainly this is proof of the existence of a superior creator who brought this universe into being for this purpose. Whatever property of matter we may examine, we behold in it the infinite knowledge, wisdom, and power of Allah, Who created <i>it</i> from nothingness. Every thing bows to His will and that is why each and every thing is in perfect harmony with everything else. Tentu saja ini merupakan bukti keberadaan Sang Pencipta yang men-jadikan alam semesta untuk tujuan ini. Apa pun sifat materi yang kita kaji, kita menyaksikan di dalamnya pengetahuan, kebijaksanaan, dan kekua-tan tidak terbatas dari Sang Pencipta. Allah menciptakan <i>benda-benda tersebut</i> dari ketiadaan. Setiap benda tunduk pada kehendak-Nya, dan itulah sebabnya setiap dan segala sesuatu berada dalam keharmonisan yang sempurna satu sama lain.	v				v			v			v		

Question	Answer
Mengapa menurut bapak tidak ada	Saya tidak mendapati terjemahan yang
terjemahan yang di beri rating 1 dalam	dapat di kategorikan sebagai tidak akurat
akurasi, kebertrimaan dan keterbacaan?"	dalam akurasi, keberterimaan dan
	keterbacaan. Hal ini berarti saya meyakini
	bahwa terjemahan yang di lakukan
	terhadap buku ini buakan terjemahan
	sembarangan. Pasti terdapat tim
	penerjemahan dan tim editor yang
	menyusun buku tersebut dengan baik.
"Based on your opinion, Why is there not	I did not find any translation categorized
any tranlation which is scored by 1 rating	as inaccurate, unacceptable and
in accuracy, acceptability and readability?	unreadable. This means that I believe
	translation done in this book is not a
	common work. There might be translator
	team and editor team who arranged the
	book correcty.

Appendix 4 Second Rater's Interview Transkript

Appendix 5 First Rater Sheet

RATER SHEET

This data is design to obtain the validation of the data and the translation quality assessment of accuracy, acceptability and readability in the book under the title "The Creation of Universe" and its translation product from the raters who have capability in translation field.

ZAINAL MUTTARIE

Appendix 6 First Rater's Closed Quetionaire

			Amplifi	caation	L		Т	ransla	ation	Qual	ity ass	essm	ent	
		t	echnique	criter	ia	A	ccura	ıcy	Ace	cepta	bility	Rea	adab	ility
No.	Sentence	Ex	Add	Ph	Ft	3	2	1	3	2	1	3	2	1
1	Examining the universe, scientists supposed that <i>it</i> was just a conglomeration of matter and imagined that it had no beginning.								•			•		
	Dalam mengkaji alam semesta, ilmuwan berang-gapan bahwa <i>jagat raya</i> hanyalah akumulasi materi dan tidak mem-punyai awal.	V				V			v			v		
2	There was no moment of "Creation"-a moment when the universe and everything in <i>it</i> came into being.													
	Tidak ada momen "penciptaan", yakni momen ketika alam semesta dan segala <i>isinya</i> muncul.	V				V			v			v		
3	This philosophy survived in different forms during Roman times but in the Late Roman Empire and <i>after</i> materialism went into decline													
	Filsafat ini bertahan dalam bentuk-bentuk berbeda selama zaman Romawi, namun pada akhir kekaisaran Romawi dan <i>Abad Pertengahan</i> , materialisme mulai mengalami kemun-duran	V				V			v			v		l I
4	This philosophy survivedmaterialism went into decline as a result of the influence of the () Catholic church and Christian faith.													
	Filsafat ini bertahanmaterialisme mulai mengalami kemun-duran karena pengaruh <i>filsafat</i> gereja Katolik dan Kristen.	1	V				v		v			v		l I
5	the idea that the universe had no beginning-that there was never any moment at which it was created-became widely accepted. It was carried into the 20th century													
	gagasan bahwa alam semesta tidak mempunyai awal— bahwa tidak pernah ada momen ketika jagat raya di-ciptakan—secara luas diterima. <i>Pandangan</i> ini diba-wa ke abad ke-20	V				v			v			v		
6	Just like the fading of a train's whistle as it moves away from the observer													
	Seperti suara peluit kereta yang semakin samar ketika kereta semakin jauh dari pengamat	V				V			v			v		
7	Robert Wilson discovered a form of radiation hitherto unnoticed. Called "cosmic background radiation", it was unlike anything coming from anywhere else in the universe													
	Robert Wilson menemukan sebentuk radiasi yang selama ini tidak teramati. Dise-but "radiasi latar belakang kosmik", <i>radiasi</i> ini tidak seperti apa pun yang berasal dari seluruh alam semesta	V				v			v			v		
8	It was neither localized nor did it have a definite source; instead, it was distributed equally <i>everywhere</i> .													
	Radiasi ini tidak dibatasi, juga tidak mempunyai sumber tertentu; alih-alih, radiasi ini tersebar merata <i>di seluruh jagat raya</i> .	1		v		v			v			v		

			Amplifi	caation	1		Т	rans	latior	ı Qu	ality a	ssessm	ient	
		te	chnique	criter	ia	A	ccura	ıcy	Acc	epta	bility	Re	adabil	ity
No.	Sentence	Ex	Add	Ph	Ft	3	2	1	3	2	1	3	2	1
9	Observations indicated that the mix of these two elements in the universe was in accord with theoretical calculations of what should have been remained after the Big Bang. <i>That</i> drove													
	Pengamatan menunjukkan bahwa campuran kedua unsur ini di alam semesta sesuai dengan perhitungan teoretis dari apa yang seharus-nya tersisa setelah Dentuman Besar. 12 <i>Bukti itu</i> memberikan		v				v		v			v		
10	Notoriously, confession is good for the soul. I will therefore begin by confessing that the Stratonician atheist has to be embarrassed by the contemporary cosmological consensus. For it seems that the cosmologists are providing a scientific proof of what St. Thomas contended could not be proved philosophically; namely, that the universe had a beginning. ⁶ () Many scientists who do not force themselves to be atheists accept Jelas sekali, pengakuan itu baik bagi jiwa. Oleh karena itu, saya akan mulai dengan mengakui bahwa penganut ateis Stratonis harus merasa malu dengan konsensus kosmologis dewasa ini. Karena tampaknya para ahli kos-mologi menyediakan bukti ilmiah untuk apa yang dianggap St. Thomas tidak terbukti secara filosofis; yaitu, bahwa alam semesta mempunyai permulaan. ⁶ Selama alam semesta dapat dengan mudah dianggap tidak hanya tanpa akhir, namun juga tanpa permulaan, akan tetap mudah untuk mendesak bahwa keberadaannya yang tiba-tiba, dan apa pun yang ditemukan menjadi ciri-cirinya yang paling mendasar, harus diterima sebagai penjelasan akhir. Meskipun saya mempercayai bahwa teori itu (alam semesta tanpa batas) masih benar, tentu saja tidak mudah atau nyaman untuk mempertahankan posisi ini di hadapan kisah Dentuman Besar. Banyak ilmuwan yang tidak mau memaksakan diri		v			v			v			v		
11	the laws of physics offer no reason why a contracting universe should explode again after collapsing into a single point: it ought to stay just as it is. Nor do <i>they</i> offer a reason why an expanding universe should ever begin to contract in the first place. ⁸ hukum-hukum fisika tidak bisa me-nerangkan mengapa alam semesta yang mengerut harus meledak lagi setelah runtuh ke dalam satu titik tunggal: ia harus tetap seperti apa ada-nya. <i>Hukum-hukum fisika</i> juga tidak bisa menerangkan mengapa alam semesta yang mengembang harus mulai mengerut lagi. ⁸	-	v				v		v			v		

			Amplifi	caation			Т	ansla	ation	Quali	ity ass	essme	ent	
			echnique			Ac	cura	ıcy	Acc	eptal	bility	Rea	ıdabi	lity
No.	Sentence	Ex	Add	Ph	Ft	3	2	1	3	2	1	3	2	1
12	the crucial point is that this cycle cannot go on for ever, as is claimed (). Calculations for this model show that satu hal penting adalah bahwa siklus ini tidak bisa berlanjut selamanya, seperti anggapan <i>mereka</i> . Perhitungan untuk model ini menunjukkan bahwa		v			V			v			v		
13	Calculations for this model show that each universe will transfer an amount of entropy to <i>its</i> successor. Perhitungan untuk model ini menunjukkan bahwa setiap alam semesta akan mentransfer sejumlah entropi kepada <i>alam semesta</i> berikutnya.	v				v			V			v		
14	our universe is interpreted as a subatomic particle in a bigger <i>one</i> . alam semesta kita diinterpretasikan sebagai partikel subatomik di dalam <i>partikel</i> yang lebih besar.	v				v			v			v		
15	In conclusion, the truth disclosed by science is this: Matter and time have been brought into being by Allah, possessor of immense power and unbound by neither time nor matter. The Signs in the Qur'an Sebagai kesimpulan, kebenaran yang terungkap oleh ilmu alam adalah: Materi dan waktu telah dimunculkan menjadi ada oleh pemilik kekuatan besar yang mandiri, oleh Pencipta. Allah, Pemilik kekuatan, pengetahuan, dan kecerdasan mutlak, telah menciptakan alam semesta tempat tinggal kita. Tanda-Tanda Al Quran			v			v	-		v			v	
16	science has proven an assertion hitherto supported only by religious sources. <i>This truth</i> is the reality reality of Creation from nothingness. ilmu alam telah membuktikan pandangan yang selama ini hanya didukung oleh sumber-sumber agama. <i>Kebenaran yang dipertahankan oleh sumber-sumber agama</i> adalah realitas penciptaan dari ketiadaan.			v			v	-	v			v		
17	This has been declared in the holy books that have served as guides for mankind for thousands of years.()In the only book revealed by Allah Ini telah dinyatakan dalam kitab-kitab suci yang telah berfungsi sebagai penunjuk jalan bagi manusia selama ribuan tahun. Dalam semua kitab suci seperti Perjanjian Lama, Perjanjian Baru, dan Al Quran, dinyatakan bahwa alam semesta dan segala isinya diciptakan dari ketiadaan oleh Allah Dalam satu-satunya kitab yang diturunkan Allah		v			ν			v			v		
18	But how could matter have formed organized galaxies if <i>it</i> had been dispersed randomly? Namun, bagaimana materi membentuk galaksi-galaksi yang teratur seandainya <i>materi</i> itu tersebar secara acak?	v				v			v			v		

			Amplific	aation			Тı	ransl	ation	Qual	lity ass	sessm	ent	
		te	chnique	criteri	a	A	ccura	cy	Acc	eptal	bility	Re	adab	ility
No.	Sentence	Ex	Add	Ph	Ft	3	2	1	3	2	1	3	2	1
19	If the attractive force had been greater than the explosive, the universe would have <i>collapsed</i> . If the opposite had been true		x 7											
	Jika kekuatan gaya tarik lebih besar daripada kekuatan ledakan, alam se-mesta hancur bertubrukan. Jika terjadi sebaliknya		V				v		v			v		
20	What then does such a remarkable equilibrium as this indicate? The only rational answer to that question is that <i>it</i> is proof of Creation													
	Lalu, apa yang diindikasikan keseimbangan yang begitu luar biasa ini? Satu-satunya jawaban rasional untuk pertanyaan itu adalah bahwa <i>keseimbangan</i> itu merupakan bukti rancangan		V						v			v		
21	The only rational answer to that question is that it is proof of ()Creation and cannot possibly be accidental.		v											
	Satu-satunya jawaban rasional untuk pertanyaan itu adalah bahwa 23 keseimbangan itu merupakan bukti rancangan <i>sadar</i> dan tidak mungkin ketidaksengajaan.		v				v		v			v		
22	Despite his own materialist bent, Dr Davies admits this himself:			x 7			x 7							
	Dr. Davies mengakui sendiri hal ini, meskipun kecen-derungannya tetap mengarah pada materialisme:			V						v			v	
23	Immediately after the Big Bang, forces that underpin and organize the universe we <i>live</i> in had to be numerically "just right" otherwise there would have been no universe.													
	Segera setelah Dentuman Besar, gaya-gaya yang menopang dan mengatur alam seme- sta <i>tempat</i> kita tinggal harus "tepat benar" secara numerik, karena kalau tidak, alam semesta tidak akan terbentuk.		V			v			v			v		
24	The difference between the strongest (strong nuclear force) and the weakest (gravitational force)If the <i>strong force</i> had been just slightly weaker		v											
	Selisih antara yang terkuat (gaya nuklir kuat) dan yang terlemah (gaya gravitasi)Jika gaya nuklir kuat sedikit lebih lemah saja		V				v		v			v		
25	Astronomy leads us to a unique event, a universe which was created out of nothing, one with the very delicate balance													
	Astronomi mengarahkan kita pada sebuah peristiwa unik, alam semesta yang diciptakan dari ketiadaan, <i>alam semesta</i> dengan keseimbangan	V				v			v			v		

			Amplific				Tı	ransla	ation	Qual	ity ass	essm	ent	
		te	chnique	criter	ia	A	ccura	acy	Acc	epta	bility	Rea	adabi	ility
No.	Sentence	Ex	Add	Ph	Ft	3	2	1	3	2	1	3	2	1
26	one with the very delicate balance needed to provide exactly the conditions required to permit life, and one which has underlying plan. ²⁵ () The scientists we have just quoted alam semesta dengan keseimbangan sangat rumit yang diperlukan untuk menyediakan kondisi tepat bagi kehidupan, dan alam semesta yang mempunyai rencana dasar ²⁵ (bisa dikatakan "super-nasional"). Ilmuwan-ilmuwan yang baru saja dikutip				v	v			v			v		
27	Examining and thinking about the incredible balances and their beautiful order in the universe inevitably leads <i>one</i> to a truth: Mengkaji dan memikirkan keseimbangan luar biasa dan keteraturan yang indah dalam		v			v			v			v		
	ran-cangan alam semesta tak pelak lagi mengarahkan seseorang pada kebenaran:													
28	and all the other variables that we will be examining in the chapters ahead and <i>which</i> are vital for existence have been arranged according to an extraordinary precision.			T 7		.								
	dan semua variabel lain yang akan kita bahas dalam bab-bab selanjutnya, <i>yang kesemuanya</i> vital untuk keberadaan alam semesta, telah diatur dengan ketepatan luar biasa.			V					v			v		
29	the forces that make human life possible in this universe and all the other variables that we will be examining in the chapters ahead and which are vital for <i>existence</i> have been arranged according to an extraordinary precision. gaya-gaya yang memungkinkan manusia hidup di alam semesta ini dan semua variabel lain yang akan kita bahas dalam bab-bab selanjutnya, yang kesemuanya vital		v			v			v			v		
	untuk keberadaan <i>alam semesta</i> , telah diatur dengan ketepatan luar biasa.													
30	Let us now make a brief <i>digression</i> and consider the coincidence theory of materialism.		v			\mathbf{v}			\mathbf{v}			\mathbf{v}		
	Mari kita menyimpang sebentar <i>dari pokok bahasan</i> dan mem-pertimbangkan teori kebetulan materialisme.		v			v			v			Ň		
31	It is hard even to imagine what this number means. In math, the value 10 ¹²³ means 1 followed by 123 zeros. (<i>This</i> is, by the way, more than											v		
	Membayangkan arti angka itu saja sudah sulit. Dalam matematika, nilai 10 ¹²³ berarti 1 diikuti dengan 123 nol (<i>angka</i> ini jauh lebih besar dari		v			v			v			V		

			Amplifi				Т	ransla	ation	Qual	ity ass	essm	ent	
		te	echnique	criter	ia	A	ccura	ıcy	Acc	epta	bility	Re	adab	oility
No.	Sentence	Ex	Add	Ph	Ft	3	2	1	3	2	1	3	2	1
32	In practical terms, in mathematics, a probability of 1 in 10 ⁵⁰ means "zero probability". Penrose's number is more than trillion trillion trillion times less than <i>that</i> . In short, Penrose's number tells us Untuk praktisnya, dalam matematika, probabilitas 1 dalam 10 ⁵⁰ berarti "probabilitas nol". Angka Penrose lebih besar daripada triliun triliun triliun kali <i>angka tersebut</i> . Dengan kata lain, angka Penrose menyatakan		v			v			v			v		
33	Even if we were to write a 0 on each separate proton and on each separate neutron in the entire universe-and we could throw in all the other particles <i>for good measure</i> -we should fall far short of writing down <i>the figure</i> needed. ²⁶ Bahkan jika kita menuliskan sebuah nol pada setiap proton dan setiap neutron di seluruh jagat raya—dan kita bisa menggunakan partikel-partikel lain selebihnya—kita tetap saja kekurangan tempat untuk menuliskan <i>semua</i> nol yang diperlukan. ²⁶			v			v		v			v		
34	The numbers defining the order and plan of the universe's equilibrium play a crucial role and exceed <i>comprehension</i> . They prove Angka-angka yang menentukan rancangan dan rencana keseim-bangan alam semesta memainkan peranan penting dan melampaui pemahaman <i>manusia</i> . Mereka membuktikan		v			v			v			v		
35	They prove that the universe is by no means the product of a <i>coincidence</i> , and show us Mereka membuktikan bahwa alam semesta bukan hasil <i>peristiwa</i> kebetulan, dan menunjukkan		v			v			v			v		
36	The anthropic principle that we mentioned before reveals every detail of a universe that has been created for mankind to live in and in which <i>there is no place for chance</i> . The remarkable part is Prinsip antropi yang telah disebutkan sebelumnya mengungkapkan bahwa setiap detail alam semesta telah dirancang bagi manusia untuk hidup di dalamnya <i>dan bahwa tidak</i> <i>mungkin itu terjadi secara kebetulan</i> . Yang menarik adalah			v		v			v			v		
37	Scientists such as Paul Davies, Arno Penzias, Fred Hoyle and Roger Penrose are not <i>pious</i> men and they certainly had no intention Ilmuwan seperti Paul Davies, Arno Penzias, Fred Hoyle, dan Roger Penrose bukanlah orang-orang yang taat <i>beragama</i> dan mereka tentu saja tidak bertujuan			v		v			v			v		

			Amplifi	caation	1		Tr	ransla	ation	Qual	ity ass	essm	ent	
		te	echnique	criteri	ia	A	cura	icy	Acc	eptal	bility	Re	adab	oility
No.	Sentence	Ex	Add	Ph	Ft	3	2	1	3	2	1	3	2	1
38	they certainly had no intention of proving Allah's existence as they pursued their work. But () they all reached the conclusion that-although some are unwillingly-universe is created by a superior power. mereka tentu saja tidak bertujuan membuktikan keberadaan Allah ketika mereka melakukan pekerjaan mereka. Orang dapat membayangkan bahwa mereka mencapai kesimpulan tentang rancangan alam semesta karena kehendak Mahakuasa yang tidak mereka sadari.		v				v		v			v		
39	we have stumbled upon scientific proof of the existence of a Supreme Being? Was it God Who so providentially crafted the cosmos for our benefit? ²⁷ kami mendapatkan bukti ilmiah akan kehadiran Zat Mahaagung? Apakah itu Tuhan yang turun tangan dan berkenan menciptakan kosmos untuk keun-tungan kita? ²⁷			v		V			v			v		
40	If the world's finest minds can unravel only with difficulty the deeper workings of nature, how could <i>it</i> be supposed that those workings are merely a mindless accident, a product of blind chance? Jika pemikiran paling cemerlang di dunia hanya dapat dengan susah payah menguraikan kerja alam yang misterius, bagaimana mungkin <i>kerja alam</i> itu hanya merupakan suatu kebetulan tanpa pemikiran, atau sebuah produk peristiwa acak?	v				v			v			v		
41	the universe that emerged from the Big Bang could have been much different from the one that did emerge-ours. For example alam semesta yang muncul dari Dentuman Besar bisa saja berbeda dengan alam semesta yang			v			v		v			v		
42	sudah terbentuk alam semesta kita. Misalnya The elements were formed as a result of a <i>reduction</i> in the universal entropy that was causing matter to scatter everywhere. Kedua unsur itu terbentuk seba-gai hasil reduksi/ <i>pengurangan</i> dalam entropi alam semesta yang		v			V			v			v		
43	menye-babkan materi tersebar ke mana-mana. the fundamental element of life, is a much heavier element than hydrogen and helium. How did <i>it</i> come into being?		v			v			v			v		
	unsur dasar kehidupan, adalah unsur yang jauh lebih berat daripada hidrogen dan helium. Bagaimana <i>unsur</i> tersebut terbentuk?		v			v			v			v		
44	Searching for an answer to this question, scientists stumbled upon one of the most surprising discoveries of this century.					• •			v			•		
	Ketikamencari jawaban untuk pertanyaan itu, para ilmuwan ter-sandung pada sebuah penemuan paling mengejutkan di abad ini.			V		v			v			v		

		Amp	lificaatio	n tech	nique		Tr	ansla	ation	Qual	ity ass	essm	ent	
			crite	ria	-	A	cura	icy	Acc	eptal	bility	Rea	adab	ility
No.	Sentence	Ex	Add	Ph	Ft	3	2	1	3	2	1	3	2	1
45	Mendeleyev, the elements in the periodic table are arranged according to their atomic structures. Hydrogen occupies the first place in the table because <i>it</i> is the simplest of all the elements, Hidrogen menempati posisi pertama dalam tabel karena <i>hidrogen</i> adalah unsur paling sederhana	v				v			v			v		
46	Another particle present in the nucleus of an atom is the neutron. Unlike protons, neutrons do not carry an electrical charge: they are neutral in other words, <i>hence their name</i> . The third basic particle of which atoms are composed is the electron Partikel lain yang terdapat di dalam inti atom adalah neutron. Tidak seperti proton, neutron tidak membawa muatan listrik: dengan kata lain mereka bermuatan netral, <i>sehingga diberi nama neutron</i> . Partikel dasar ketiga yang membangun atom adalah elektron			v		v			v			v		
47	Changing iron (with twenty-six protons) into silver (with eighteen) would require removing eight protons from the nucleus. But protons are bound together by the strong <i>nuclear</i> force and the number of protons in a nucleus can be changed only in nuclear reactions. Mengubah besi (dengan 26 proton) menjadi perak (18 proton) akan mengharuskan penyingkiran delapan proton dari nukleus. Namun proton terikat jadi satu oleh gaya <i>inti/</i> nuklir yang kuat dan jumlah proton dalam nukleus hanya bisa diubah dengan reaksi nuklir.	v				v			v			v		
48	Astronomers believe that solar-type stars (of which the Sun is one) are formed as a result of nebulae (<i>clouds</i>) of hydrogen and helium gas being compressed until the hydrogen-to-helium thermonuclear reaction gets started. Para ahli astronomi percaya bahwa bintang seje-nis matahari terbentuk dari nebula (awan <i>kosmis</i>) yang terdiri dari hidro-gen dan helium yang dimampatkan sampai reaksi termonuklir hidrogen-menjadi-helium terjadi.		V			v			v			v		
49	But as we said: it's not easy. It's nearly impossible to persuade two helium atoms to join together and quite impossible for <i>three</i> . So how do the six protons needed for carbon get together? Namun seperti kami sebutkan, ini tidaklah mudah. Hampir tidak mungkin untuk menggabungkan dua atom helium, dan sangat tidak mungkin menggabungkan tiga <i>atom</i> . Lantas, bagaimana enam proton yang diperlukan karbon dapat bergabung?		V			v			v			v		
50	The child sits on the swing and you give him a push to get <i>him</i> started. To keep the swing moving, you have to keep pushing it from behind.			v		v			\mathbf{v}			v		
	Si kecil duduk di atas ayunan dan Anda mendorongnya untuk memulai <i>ayunan.</i> Untuk menjaga ayunan terus mengayun, Anda harus mendorongnya dari belakang.			•								•		

		Amp	lificaatio	on tech	nique		T	ransl	ation	Qual	ity ass	essm	ent	
			crite	ria		A	ccura	acy	Ace	epta	bility	Re	adab	oility
No.	Sentence	Ex	Add	Ph	Ft	3	2	1	3	2	1	3	2	1
51	If one of these violins is played in the same room as <i>the other</i> , the strings of the second will vibrate and produce a sound even though nobody is touching it.		v			v						v		
	Jika salah satu dari biola ini dimainkan di dalam satu ruangan dengan <i>biola yang lain</i> , senar biola kedua akan bergetar walaupun tidak ada seorang pun yang menyen-tuhnya.		V			ľ			V			v		
52	Every atomic nucleus has a natural energy level that physicists have been able to identify after lengthy study. These energy levels are quite different from <i>one another</i> but a few rare instances of resonance between atomic nuclei have been observed. Setiap inti atom memiliki tingkat energi alamiah yang telah berhasil diketahui setelah penelitian panjang para ahli fisika. Tingkat energi ini sangat berbeda antara <i>satu atom</i> dan <i>atom yang lain</i> , namun dalam beberapa kejadian	v				v			v			v		
53	The important point of this is that the resonance expedites nuclear reactions that can affect the nuclei. ⁵⁵ ³³). The resonance mentioned here occurs as follows: when two atom nuclei fuse, the new emerging nucleus both takes on the total of the massive energy of the two nuclei forming it and their kinetic energy. This new nucleus works to reach a particular energy level within the atom's natural energy ladder. However, this is only possible if the total energy it receives corresponds to this level of energy. If it fails to correspond, then the new nucleus decomposes at once. For the new nucleus to attain stability, the accumulated energy in its body and the level of natural energy it forms should be equal to each other. When this equality is attained the "resonance" occurs. However this resonance is a highly rare harmony with a very low probability to be achieved. Hal yang penting dari kejadian ini adalah resonansi mendorong reaksi nuklir yang mempengaruhi inti atom. ³⁵ ³⁵) resonansi yang disebutkan disini terjadi sebagai berikut: ketika dua inti atom bergabung, inti- inti yang membentuknya dan energi kinetik keduanya. inti baru ini bekerja untuk mencapai tingkat energi tertentu dalam tingkatan energi alamiatom. Tetapi ini hanya bisa terjadi jika energi total yang diterimanya sesuai dengan tingkat energi tersebut. Jika tidak sesuai, maka inti baru ini akan meluruh seketika. agar inti baru mencapat kestabilan, energi yang terakumulasi di dalannya dan tingkat energi alami yang dibentuknya harus sama. Ketika kesamaan ini dicapai atau berpeluang sangat rendah untuk dicapai.				v	v			v			v		

		Amp	lificaatio	on tech	nique		Т	ransla	ation	Qual	ity ass	essm	ent	
			crite	ria	-	A	cura	acy	Ace	epta	bility	Re	adab	ility
No.	Sentence	Ex	Add	Ph	Ft	3	2	1	3	2	1	3	2	1
54	The idea of such a precise resonance occurring once was hard enough to accept; that <i>it</i> should occur twice was unthinkable.		x 7			•						•		
	Gagasan resonansi selaras yang terjadi sekali saja sudah sulit untuk diterima; apalagi <i>resonansi</i> tersebut terjadi dua kali, sama sekali tidak terpikirkan.]	V			V			v			V		
55	Upon this our existence, and that of every life form in the universe, <i>depends</i> . ³⁶		v			v			v			v		
	Keberadaan kita, dan seluruh ben-tuk kehidupan di alam semesta, $\ bergantung\ pada\ proses\ ini.$ 36		V			V			•			v		
56	Hydrogen, the input element for this reaction, is the simplest element in the universe for its nucleus consists of a single proton. In a helium nucleus, <i>there are</i> two protons and two neutrons.		v			\mathbf{v}			x,			v		
	Hidrogen, unsur masukan reaksi ini, adalah unsur paling sederhana di alam semesta dengan hanya memiliki proton tunggal dalam intinya. <i>Inti helium</i> memiliki dua proton dan dua neutron.]	V			V			`			v		
57	the strong nuclear force is just barely strong enough to do what it does. If it were even slightly weaker than it is, <i>it</i> would not be able to unite the two nuclei.													
	sebegitu kuatnya gaya nuklir kuat ini, namun ha-nya cukup kuat untuk melakukan tepat apa yang selama ini telah dila-kukannya. Jika hanya sedikit lebih lemah, maka gaya ini tidak mampu menyatukan dua inti.	V					v			v			v	
58	Sun's fuel would suddenly become very good indeed. It would become so powerful	T 7												
	bahan bakar matahari tiba-tiba akan menjadi sangat ampuh. <i>Matahari</i> dalam keadaan ini akan begitu kuat	V					v			v			v	
59	So far, so much basic chemistry. However there is a point in this seemingly simple structure that is overlooked by <i>many</i> . A proton is much bigger than an electron in terms of both size and weight.		v			v			N			•		
	Sejauh ini, begitu banyak perihal kimia dasar. Namun terdapat satu hal dalam struktur yang kelihatan sederhana ini yang diabaikan <i>banyak orang</i> . Proton jauh lebih besar daripada elektron dari sisi ukuran dan berat.	1	V									V		
60	A huge star destroys itself in an immense blast and the material of its core is scattered in every direction. The light produced during this event is a thousand times brighter than <i>normal</i> .											_		
	Sebuah bintang raksasa menghancurkan diri dalam ledakan dahsyat, dan materi intinya bertebaran ke seluruh penjuru. Cahaya yang dihasilkan dalam peristiwa ini ribuan kali lebih terang daripada <i>keadaan</i> normal.		v			v			V			V		

		A	mplific	aation			1	[ransl	ation	Qual	ity ass	essme	ent	
		teo	hnique	criter	ia	А	ccura	acy	Acc	eptal	oility	Re	adab	ility
No.	Sentence	Ex	Add	Ph	Ft	3	2	1	3	2	1	3	2	1
61	According to this hypothesis, our solar system, the Sun and its planets including Earth, are the products of some incredibly <i>ancient</i> supernova. Although supernovas may seem to be ordinary explosions Menurut hipotesis ini, tata surya kita, matahari dan planetnya termasuk bumi, merupakan produk supernova <i>yang terjadi dahulu kala</i> . Meskipun supernova tampak seperti ledakan biasa	-	v			v			v			v		
62	The distances between supernovae and indeed between all stars is critical for other reasons. ()If the distance between stars in our galaxy was much less, planetary orbits would be destabilized. If it was much more Jarak antarsupernova dan bahkan antar semua bintang sangat penting untuk alasan yang lain. Jarak antarbintang dalam galaksi kita adalah sekitar 30 juta tahun cahaya. Jika jarak ini lebih dekat	-			v	v			v			V		
63	The enormous distances between the universe's stars and galaxies moderate the risk that such an explosion will affect <i>other bodies</i> . The ratio of supernovas and stars' distances are just two more Jarak yang luar biasa jauh antar bintang dan galaksi di alam semesta memperkecil risiko yang diakibatkan ledakan tersebut terhadap <i>benda-benda alam semesta lainnya</i> . Perbandingan antara supernova dan jarak antarbintang hanyalah dua detail lain	-	v			v			v			\mathbf{v}		
64	and an uncounted number of asteroids all revolving around a single star called "Sun", a middle- sized star compared with <i>others</i> in the universe. Earth is the third planet from the Sun. serta tak terhitung aste-roid, yang semuanya mengitari bintang yang disebut "Matahari"— sebu- ah bintang berukuran sedang dibandingkan <i>bintang lainnya</i> di alam semesta. Bumi adalah planet ketiga dari matahari.	v				v			v			V		
65	The planet Earth is a part of the solar system. In this system there are nine major planetsLet us first try to understand the size of this <i>system</i> . The diameter of the Sun is 103 times that of the Earth Bumi adalah bagian dari tata surya. Dalam sistem ini, terdapat sem-bilan planetMarilah kita coba memahami seberapa besar <i>sistem tata surya</i> . Dia-meter matahari adalah 103 kali diameter bumi	v				v			v			v		
66	the Sun would be about the size of soccer ballSome of the objects representing the outer planets would have to be set several kilometers <i>away</i> . Big though this might seem, maka matahari sebesar bola sepakBenda yang mewakili planet terluar harus diletakkan beberapa kilometer <i>dari bola sepak</i> . Meskipun tampak begitu besar,	v					v		v			v		

		Amp	lificaati	on tech	nique		Т	ransla	ation	Qual	ity ass	essm	ent	
			crit	eria	-	A	cura	ıcy	Acc	epta	bility	Re	adat	oility
No.	Sentence	Ex	Add	Ph	Ft	3	2	1	3	2	1	3	2	1
67	Keeping to the same scale, the two balls should be 280 meters apartThe star nearest to the Sun is Alpha Centauri. If we wanted to add Alpha Centauri in our <i>model</i> system		.											
	Dengan perbandingan yang masih tetap, maka jarak antara bola sepak dan kelereng adalah 280 meter Jika kita akan meletakkan Alpha Centauri ke dalam model tata surya kita (<i>bola dan kelereng</i>)		V						v					
68	Even the Milky Way is dwarfed by the vast size of the whole universe. <i>It</i> is just one of many galaxies-nearly 300 billion of them according to recent calculations.	v				v			x 7			•		
	Bahkan Bima Sakti itu kerdil dibandingkan dengan alam semesta yang luas. <i>Bima Sakti</i> hanyalah satu dari sekian banyak galaksi—300 miliar menurut perhitungan terakhir.	V										V		
69	In short, the distribution of celestial bodies in space is exactly what <i>it</i> must be for human life to exist on our planet.	v				•			•					
	Ringkasnya, penyebaran benda-benda langit di alam semesta adalah <i>pengaturan</i> yang tepat bagi manusia untuk dapat hidup di planet ini.					V						v		
70	These huge spaces are the outcome of <i>a special</i> Creation and not a result of coincidence.			v			x 7							
	Ruang yang begitu besar ini adalah hasil dari rancangan yang disengaja dengan maksud tertentu dan bukan hasil peristiwa kebetulan.			V			v		v			v		
71	If you abandon a car in some exposed place for a year or even a couple of months, you certainly wouldn't expect <i>it</i> be in just as good condition as you left it when you return.													
	Jika Anda meninggalkan mobil di tempat terbuka bertahun-tahun atau bahkan cuma beberapa bulan, ketika kebali, Anda pasti tidak bisa mengharapkan <i>mobil</i> Anda dalam kondisi seperti pada waktu Anda meninggalkannya.	V				V								
72	Immediately after the Big Bang, the universe was in precisely such a completely disorganized state as would exist if entropy had been <i>maximized</i> But that has changed													
	Segera setelah Dentuman Besar, alam se-mesta benar-benar dalam keadaan sama sekali tak beraturan seperti terjadi jika <i>entropi telah mencapai derajat paling tinggi</i> . Namun hal tersebut berubah			V		V						V		
73	(In astronomy, a primary is something that another body revolves <i>about</i> . The Earth's primary is the Sun; the Moon's primary is the Earth.)								•					
	(Dalam astronomi, benda primer adalah benda yang dikitari <i>oleh benda lainnya</i> . Benda primer bumi adalah matahari, benda primer bulan adalah bumi).]	v			v			V			v		

		Amp	lificaatio	n tech	nique		Tr	ansla	tion (Quali	ity ass	essm	ent	
			crite	ria	-	Ao	cura	icy	Acc	eptal	bility	Re	adab	oility
No.	Sentence	Ex	Add	Ph	Ft	3	2	1	3	2	1	3	2	1
74	Moreover, this equilibrium has to be different for each body because the distance of planets to the Sun differs. So do their $masses$.	v				• •						τ,		
	Lebih jauh, keseimbangan ini tentu berbeda untuk setiap benda angkasa, sebab jarak antara planet dan matahari berbeda-beda. Demikian juga <i>massa benda-benda langit ter-sebut</i> .					V			v			V		
75	Moreover, this equilibrium has to be different for each body because the distance of planets to the Sun differs. So do their masses. Therefore, <i>they</i> have to have different orbital speeds													
	Lebih jauh, keseimbangan ini tentu berbeda untuk setiap benda angkasa, sebab jarak antara planet dan matahari berbeda-beda. Demikian juga massa <i>benda-benda langit ter-sebut. Jadi, planet-</i> <i>planet</i> harus memiliki kecepatan yang berbeda	V				V								
76	even Earth's location in the galaxy is evidence that <i>it</i> was intended for mankind to live on	v				v			v			v		
	bahkan posisi bumi di galaksi merupakan bukti bahwa bumi diciptakan bagi manusia untuk hidup	v				v			v			v		
77	The reason that some people cannot understand this point is their own prejudice. But any objective mind () without prejudice will easily understand		.			• •						•		
	Alasan mengapa sebagian orang tidak dapat memahami hal ini adalah prasangka mereka sendiri. Namun pemikiran yang murni <i>berda-sarkan kenyataan</i> tanpa prasangka dapat dengan mudah memahami		V			V								
78	But any objective mind without prejudice will easily understand that the universe is created and organized for mankind to live in, just as is revealed:		.											
	Namun pemikiran yang murni berda-sarkan kenyataan tanpa prasangka dapat dengan mudah memahami bahwa alam semesta diciptakan dan dikendalikan <i>oleh Allah</i> bagi manusia untuk hidup, seperti yang diungkapkan di dalam Al Quran:		V				V		v			v		
79	But any objective mind without prejudice will easily understand that the universe is created and organized for mankind to live in, just as is <i>revealed</i> :		T 7			* 7			•			•		
	Namun pemikiran yang murni berda-sarkan kenyataan tanpa prasangka dapat dengan mudah memahami bahwa alam semesta diciptakan dan dikendalikan oleh Allah bagi manusia untuk hidup, seperti yang diungkapkan <i>di dalam Al Quran:</i>		V			V								
80	If you want to "land" on Saturn, you'd better produce your spaceship to be like an inflatable boat!								•					
	Jika Anda ingin "mendarat-kan" <i>pesawat</i> di Saturnus, Anda sebaiknya merancang pesawat Anda agar bisa seperti pelampung!		v			v			V			v		

		Amp	lificaatio	n tech	nique		Tr	ansla	ation (Quali	ity ass	essm	ent	
			crite	ria	-	Ac	cura	cy	Acc	eptal	bility	Re	adab	oility
No.	Sentence	Ex	Add	Ph	Ft	3	2	1	3	2	1	3	2	1
81	Astronomers now know that it is an enormous storm system that has been raging in the Jovian atmosphere for centuries. It is big enough to swallow up a couple of planets the size of Earth whole. Ahli astronomi sekarang mengetahui bahwa ini adalah badai yang luar biasa kuatnya yang telah berkecamuk di atmosfer Jovian selama berabad-abad. Badai ini cukup besar untuk menelan beberapa planet seukuran bumi.		v			v			v			v		
82	With its hospitable atmosphere, surface features, ambient temperatures, magnetic field, and supply of elements and set just the right distance from the Sun, it is evident that it was specially created to be a home for life. () A Brief Digression and Warning About "Adaptation" Dengan atmosfer yang ramah, kondisi permukaan, suhu permukaan, medan magnet, ketersediaan unsur-unsur, serta posisi pada jarak yang tepat dari matahari, tampak seperti telah dirancang secara khusus untuk tempat hidup. Dan, seperti yang akan kita temukan, memang demikian adanya. Peralihan Topik Sesaat dan Peringatan tentang "Adaptasi"		v			v			v			v		
83	mechanisms of adaptation to natural conditions in living beings come into play only under certain circumstances and <i>it</i> can never transform one species into another in detail in our other books. ⁵⁵ mekanisme adaptasi makhluk hidup terhadap kondisi alam hanya terjadi dalam suatu kondisi tertentu, dan <i>adaptasi</i> tidak pernah bisa mengubah suatu spesies menjadi spesies la-in—dalam buku kami yang lain. ⁵⁵	v				V			v			v		
84	Geography also helps distribute heat equally over the earth. Geografi <i>bumi</i> juga membantu menyebarkan panas secara merata di seluruh permukaan bumi.		V				V			V			V	
85	The probability of a forest fire being ignited increases by as much as 70 percent for every 1 percent increase in the percentage of oxygen in the atmosphere. ⁶⁰ () According to the British biochemist James Lovelock: Kemungkinan kebakaran hutan tersulut naik 70% untuk setiap penambah-an 1% oksigen di atmosfer. ⁶⁰ Bahkan peningkatan 5% oksigen dalam atmosfer bumi akan menyebabkan kebakaran yang membinasakan sebagian besar hutan yang ada. Menurut ahli biokimia dari Inggris, James Lovelock:		v			v			v			ν		
86	The cells of our body use this oxygen and release carbon dioxide into the blood, which conveys it back to the lungs where <i>it</i> is expelled. Sel tubuh kita menggunakan oksigen ini, dan me-lepaskan karbondioksida ke dalam darah, yang membawanya kembali ke paru-paru, di mana <i>zat</i> ini kemudian dikeluarkan.		v			V			v			v		

		Amp	lificaatio		nique		Т	ransl	ation	Qual	ity ass	essm	ent	
			crite	ria		A	ccura	ıcy	Acc	eptal	bility	Re	adat	oility
No.	Sentence	Ex	Add	Ph	Ft	3	2	1	3	2	1	3	2	1
87	But that perfect structure depends on other factors: the density, <i>viscosity</i> , and pressure of air must all be right in order for the air to move properly in and out of our lungs.		• •											
	Namun rancangan yang sempurna ini bergantung kepada faktor lain: kerapatan, viskositas (kekentalan), dan tekanan udara harus tepat agar udara dapat bergerak masuk dan keluar paru- paru dengan benar.		V						V					
88	In other words, the individual values of air's density, viscosity and pressure must all fall within certain limits in order for it to be breathable and <i>those</i> of the air		v			v			x,			x,		
	Dengan kata lain, nilai masing-masing kerapatan, visko-sitas dan tekanan udara harus berada dalam batas tertentu agar dapat digunakan untuk bernafas, dan <i>nilai-nilai tersebut</i> dalam udara]	V						$ \mathbf{v} $					
89	. In other words, the individual values of air's density, viscosity and pressure must all fall within certain limits in order for it to be breathable and those of the air we breathe do exactly <i>that</i> .			• •			•							
	Dengan kata lain, nilai masing-masing kerapatan, visko-sitas dan tekanan udara harus berada dalam batas tertentu agar dapat digunakan untuk bernafas, dan nilai-nilai tersebut dalam udara yang kita hirup adalah <i>nilai yang tepat</i> .]		V			V		V			v		
90	On the other hand, if the pressure were much higher, the rate of water vaporization would be less, () turning large parts of the planet into desert.		.									•		
	Sebaliknya, jika tekanan jauh lebih tinggi, laju penguapan air akan turun. (Akibatnya air di laut tetap berada di laut, air di daratan akan mengalir ke laut), membuat sebagian planet menjadi gurun pasir.		V											
91	Examining the earth, we can make the list of the "essential factors for <i>life</i> " a long as we please.			v		v			v			x,		
	Mempe-lajari bumi, kita dapat menyusun daftar <i>"faktor yang menentukan bagi kehidupan"</i> sepanjang yang kita mau.]		v		`			`			V		
92	Recent research indicates that () sunlight has magnificent features that inspires amazement													
	Akan tetapi, apakah matahari hanya "kebetulan saja" memancarkan cahaya dan panas bagi kita? Apakah ini ketidaksengajaan dan tanpa terencana? Atau apakah matahari khusus dirancang bagi kita? Mungkin-kah bola api yang dahsyat di langit ini menjadi "lampu" raksasa yang diciptakan untuk memenuhi dengan tepat kebutuhan kita? Penelitian terkini menunjukkan <i>bahwa jawaban</i> <i>untuk dua perta-nyaan terakhir adalah "ya". "Ya</i> ", karena pada sinar matahari ada rancangan yang memicu ketakjuban.		v			v			V			v		

		Amp	lificaatio		nique		Tr	ansla	tion	Qual	ity ass	essm	ent	
			crite	eria		A	cura	cy	Acc	eptal	bility	Re	adab	ility
No.	Sentence	Ex	Add	Ph	Ft	3	2	1	3	2	1	3	2	1
93	And just as the ripples created by the stone may have different heights and the distances between <i>them</i> may vary, electromagnetic radiation also has different wavelengths.	v				•						•		
	Riak air yang terbentuk oleh batu itu dapat memiliki ketinggian yang berbeda, dan jarak antarpuncak riak mungkin bervariasi pula.	V				V			v			V		
94	The analogy shouldn't be taken too far however because there are huge differences in the wavelengths of electromagnetic radiation. Some are several kilometers long while others are shorter than a billionth of a centimeter and the other wavelengths are to be found in <i>a smooth</i> . Namun, analogi ini sebaiknya tidak diambil terlalu jauh karena ada perbedaan yang sangat besar dalam panjang gelombang radiasi elektro-magnetik. Beberapa di antaranya memiliki panjang beberapa kilometer sedangkan lainnya lebih pendek dari sepermiliar sentimeter, dan panjang gelombang lain dapat ditemukan pada <i>spektrum kontinu</i>			v		v			v			v		
95	Some are several kilometers long while others are shorter than a billionth of a centimeter and the other wavelengths are to be found in a smooth, unbroken spectrum everywhere in 98 <i>between</i> . Beberapa di antaranya memiliki panjang beberapa kilometer sedangkan lainnya lebih pendek dari sepermiliar sentimeter, dan panjang gelombang lain dapat ditemukan pada spektrum kontinu dan tanpa ter-sela di <i>antara kedua angka ini</i> .			v			v		v			v		
96	The radiation with the shortest wavelength (one-trillionth of a centimeter) for example is called "gamma rays": these <i>rays</i> pack tremendous amounts of energy. Misalnya, radiasi dengan panjang gelombang terpendek (sepertriliun sentimeter) disebut "sinar Gamma"; sinar <i>Gamma</i> memiliki energi yang sangat besar.	v				v			v			v		
97	The longest wavelengths are called "radio waves": <i>they</i> can be several kilometers long but carry very little energy. Panjang ge-lombang terpanjang disebut "gelombang radio"; <i>gelombang</i> ini panjang-nya		v			v			v			v		
98	mencapai beberapa kilometer namun membawa energi sangat kecil Light is a form of electromagnetic radiation that lies between these two <i>extremes</i> . The first thing													
	to be noticed about the electromagnetic radiation that ness between these two extremes. The first uning to be noticed about the electromagnetic spectrum is Cahaya adalah sebuah bentuk radiasi elektromagnetik yang terletak di antara kedua <i>ekstrem panjang gelombang tersebut</i> . Hal pertama untuk diperhatikan tentang spektrum elektromagnetik adalah		v			v			V			v		

		Amp	lificaatio	on tech	nique		Tr	ansla	tion	Quali	ity ass	essmo	ent	
		_	crite	eria	-	A	cura	icy	Acc	eptal	bility	Rea	adab	ility
No.	Sentence	Ex	Add	Ph	Ft	3	2	1	3	2	1	3	2	1
99	The first thing to be noticed about the electromagnetic spectrum is how broad <i>it</i> is: the longest wavelength is 10 ²⁵ times the size of the shortest one. Hal pertama untuk diperhatikan tentang spektrum elektromagnetik adalah betapa lebarnya <i>spektrum tersebut</i> : Panjang gelombang terpan-jang adalah 10 ²⁵ kali ukuran panjang gelombang terpendek.		v			v			v			v		
100	Three kinds of light might seem quite enough but all three combined make up an almost insignificant section of the total spectrum. Tiga jenis cahaya itu tampaknya sudah cukup, namun gabungan ketiganya merupakan bagian yang hampir tidak berarti dibandingkan keseluruhan spektrum.			v		V			V			V		
101	In Energy and the Atmosphere, the British physicist Ian Campbell addresses this question and says "()That the radiation from the Sun (and from many sequence stars) Dalam buku Energy and the Atmosphere, fisikawan dari Inggris, Ian Campbell, menjawab pertanyaan ini dan menyatakan, "Sungguh luar biasa bahwa radiasi dari matahari (dan dari banyak rangkaian bintang)		v			v			V			V		
102	". If the energy is less than this threshold, the reaction will never start and if <i>it</i> is more, Jika energi kurang dari ambang batas ini, reaksi tidak akan pernah dimulai dan jika <i>energi</i> lebih besar	v				V			V			V		
103	When we look at this part of the light we see that a large part of solar radiation falling outside the range of visible light is in the section of the spectrum called " <i>near infrared</i> ". ⁶⁵ Is infrared light good for anything? Ketika kita mengamati bagian cahaya ini, kita mendapati bahwa sebagian besar radiasi matahari yang jatuh di luar rentang cahaya tampak berada pada bagian spektrum yang disebut " <i>inframerah-dekat</i> ". ⁶⁵ Selang Inframerah dekat meliputi sinar dengan panjang gelombang 0,70 mikron, di mana cahaya tampak berakhir, hingga 1,50 mikron. Apakah sinar inframerah berguna?			v			v		v			v		
104	Although overexposure to solar ultraviolet light has been shown to cause cancer and cellular mutations <i>it</i> has one vital benefit: Meski-pun paparan berlebihan terhadap sinar ultra-violet <i>matahari</i> telah terbuk-ti menyebabkan kanker dan mutasi sel, sinar ini memiliki satu manfaat:	v				v			V			V		
105	Although overexposure to solar ultraviolet light has been shown to cause cancer and cellular mutations, <i>it</i> has one vital benefit: Meski-pun paparan berlebihan terhadap sinar ultra-violet matahari telah terbuk-ti menyebabkan kanker dan mutasi sel, <i>sinar</i> ini memiliki satu manfaat:		v			v			V			v		

		Amp	lificaatio	on tech	nique		Т	ransla	ation	Quali	ity ass	essme	nt	
		-	crite	eria	-	A	ccura	ıcy	Acc	eptał	bility	Rea	dabi	lity
No.	Sentence	Ex	Add	Ph	Ft	3	2	1	3	2	1	3	2	1
106	the ultraviolet light concentrated in such a <i>miniscule band</i> ^{ep} is needed for the synthesis of vitamin D in humans and other vertebrates. In other words, all the radiation emitted by the Sun is essential to life Sinar ultraviolet yang berada pada <i>pita</i> begitu <i>sempit</i> ini diperlukan u-ntuk pembentukan vitamin D pada manusia dan binatang bertulang bela-kang. ⁶⁹) Selang yang sempit ini meliputi sinar ultraviolet antara 0,29 mikron sampai 0,32 mikron. Dengan kata lain, semua radiasi yang dipancarkan oleh				v		v		v			v		
107	Vitamin D is necessary for the formation and nourishment of bone: without <i>it</i> , bones become soft or malformed (Vitamin D penting untuk pembentukan dan makanan tulang: Tanpa <i>vitamin D</i> tulang menjadi lunak atau cacat	V				V			V			V		
108	Photosynthesis is a chemical process whose name almost everyone who's ever gone to school will be familiar with. Most people however fail to realize how vitally important this process is for life on Earth or what a mystery <i>its</i> workings are. Fotosintesis adalah sebuah proses kimia yang namanya dikenal hampir oleh semua orang yang pernah bersekolah. Tetapi, kebanyakan orang tidak menyadari betapa sangat pentingnya proses ini bagi kehi-dupan di atas bumi, atau misteri apa yang ada <i>di dalam proses ini</i> .			v			v		v			v		
109	If plants didn't release oxygen, the oxygen-breathers would eventually use up all the free oxygen in the atmosphere and that would be the end of <i>them</i> . Jika tumbuh-tumbuhan tidak melepaskan oksigen, penghirup oksigen akhirnya akan menghabiskan semua oksigen dalam atmosfer, dan ini akan menjadi akhir bagi <i>makhluk-makhluk</i> <i>tersebut</i> . Jika tumbuh-tumbuhan tidak melepaskan oksigen, penghirup oksigen akhirnya akan menghabiskan semua oksigen dalam atmosfer, dan ini akan menjadi akhir bagi <i>makhluk-makhluk</i> <i>tersebut</i> .	v				v			v			v		
110	. This marvelous chemical reaction, which has never been duplicated in any laboratory, is taking place deep in the grass you step on and in trees.() It once occurred in the vegetables on your dinner plate. Reaksi kimia yang mengagumkan ini, yang belum pernah ditiru laboratorium mana pun, terjadi pada rerumputan yang Anda injak, <i>dan pada pepohonan yang mungkin bahkan tidak pernah Anda tengok</i> . Ini juga pernah terjadi pada sayuran di atas piring makan malam Anda.		v			v			v			v		
111	When we study photosynthesis, we can't help but observe that there is a perfect balance between plant photosynthesis and the energy consumption of oxygen-breathers. Yang menarik adalah betapa cermatnya rancangan proses fotosin-tesis ini. Ketika kita mempelajarinya, tidak akan luput dari pengamatan kita bahwa ada keseimbangan yang sempurna antara fotosintesis tum-buh-tumbuhan dan penggunaan energi oleh penghirup oksigen.			v			v		v			v		

		Amp	lificaatio	n tech	nique		Т	ransla	ation	Qual	ity ass	essme	ent	
			crite	ria		Ao	cura	icy	Acc	epta	bility	Rea	adab	ility
No.	Sentence	Ex	Add	Ph	Ft	3	2	1	3	2	1	3	2	1
112	that the plants use to make more glucose and oxygen. And so <i>it</i> goes on, a continuous cycle that is called the "carbon cycle" and it is powered by the energy of the Sun. Dan demikianlah pro-ses ini berlangsung, sebuah siklus berkesinambungan yang disebut "sik-lus karbon", dan <i>siklus</i> ini digerakkan oleh energi dari matahari.	-	v			v			v			v		
113	A good analogy is that of a television set. In order for the set to receive () a given channel Analogi yang bagus adalah sebuah televisi. Agar TV menerima saluran (gelombang) yang dikehendaki,	-	v			V			V			V		
114	A good analogy is that of a television set. In order for the set to receive a given channel <i>it</i> must be tuned to that channel; tune it differently Analogi yang bagus adalah sebuah televisi. Agar TV menerima saluran (gelombang) yang dikehendaki, <i>TV</i> harus ditala pada saluran tersebut: Talakan TV pada saluran yang berbeda.	-	v			v			v			v		
115	After all, if the Sun were a different temperature () could not some other molecule, tuned to absorb light of a different colour, take the place of chlorophyll? Bagaimanapun, andaikan matahari memiliki suhu berbeda <i>dengan suhunya saat ini</i> , bisakah molekul lain yang beradaptasi untuk menyerap cahaya dengan warna ber-beda menggantikan klorofil?	-	v			v			v			v		
116	This perfect harmony is unquestionably proof of <i>Creation</i> . In other words, there is a single Creator, Keharmonisan sempurna ini merupakan bukti nyata <i>rancangan yang disengaja dan direncanakan</i> . Dengan kata lain, terdapat Pencipta tunggal	-	v				v		v			v		
117	The retina contains cells that are light-sensitive. <i>They</i> are so sensitive that each can recognize when even a single photon strikes it. Retina mengandung sel yang sensitif terhadap cahaya. <i>Sel</i> tersebut begitu sensitif sehingga setiap sel dapat mengenali sekalipun hanya sebuah fo-ton yang menimpa retina.	v				v			V			v		
118	. The retina contains cells that are light-sensitive. They are so sensitive that each can recognize when even a single photon strikes <i>it</i> . The photon's energy activates a complex molecule Retina mengandung sel yang sensitif terhadap cahaya. Sel tersebut begitu sensitif sehingga setiap sel dapat mengenali sekalipun hanya sebuah fo-ton yang menimpa <i>retina</i> . Energi foton mengaktifkan	v					v		v			v		

			Amplifi	caation			Т	ransla	ation	Qual	ity as:	sessmo	ent	
			chnique			A	ccura	ıcy	Acc	eptal	oility	Rea	ıdabi	lity
No.	Sentence	Ex	Add	Ph	Ft	3	2	1	3	2	1	3	2	1
119	The photon's energy activates a complex molecule called "rhodopsine", large quantities of which are contained in these cells. The rhodopsine in turn <i>activates other cells</i> and those <i>activate still</i> others in turn. ⁷² Eventually an electrical current is generated and this is <i>carried</i> to the brain by the optic nerves. ⁷³ . This chain reaction taking place in the eye is actually much more complicated. The light reaching the eye passes through the lens and falls upon the retina in the back. When light first strikes the retinal molecule forces a change in the shape of the protein, rhodopsin, to which the retinal is tightly bound. The protein's metamorphosis alters its behaviour. Now called metarhodopsin II, the protein sticks to another protein, called trans-ducin. Before bumping into metarhodopsin II, transducin had tightly bound a small mole-cule called GDP. But when transducin interacts with metarhodopsin II, the GDP fails off, and a molecule called GIP binds to transducin. Now two proteins and one chemical molecule are bound to one another and it is called GTP-transducin-metarhodopsinII. It now binds to a protein called phosphodiesterase. When attached to metarhodopsinII and its entourage, the phosphodiesterase acquires the chemical ability to "cut" a molecule called GGMP. Initially there are a lot of CGMP mole-cules in the cell, but the phosphodiesterase lowers its concentration, just as a pulled plug lowers the water level in a bathub. Another protein that binds cGMP is called an ion channel. It acts as a gateway that regulates the number of codum ions in the cell. Normally the ion channel allows sodum ions to flow into the cell, while a separate protein actively pumps them out again. The dual ac-tion of the ion channel and pump keeps the level of sodum ions in the cell within a nar-row range. When the amount of CGMP is reduced because of cleavage by the phosphodiesterase, the ion channel closes, causing the cellular concentration of positively charged sodium ions to be reduced. This causes an imbalance of				v	v			v			v		

The reactions described above is far from being a complete biochemical explanation of seeing						
and they are only summarized. However, even what has been related above sug-gests that seeing						
is a very complicated and perfect mechanism which can never come about by evolution. The first						
requirement for this system to work is that the retina cell must be able to recognize when a						
photon strikes it						
Energi foton mengaktifkan "rhodopsin", suatu molekul kompleks yang banyak terkandung						
dalam sel retina. Se-lanjutnya rhodopsin mengaktifkan sel-sel lain, dan sel lain tersebut pada						
gilirannya mengaktifkan sel yang lain lagi. ⁷² Akhirnya arus listrik dibang-kitkan dan diantarkan						
ke otak oleh syaraf optik ⁷²). reaksi berantai di mata ini sesungguhnya jauh lebih rumit. Cahaya						
yang mencapai mata melewati lensa dan jatuh pada retina di bagian belakang. Ketika cahaya						
mengenai retina, sebuah foton berinteraksi dengan molekul yang disebuT 11-cis-retinal.						
Perubahan bentuk retina memaksa terjadinya perubahan bentuk protein, rhodopsin. Di						
rhodopsin inilah molekul retinal terikat kuat. Perubahan bentuk protein mengubah perilakunya.						
Setelah menjadi metarhodopsin II, protein ini melekat pada protein lain, transducin. Sebelum						
berikatan dengan metarhodopsin II transducin mengikat molekul kecil, GDP. Namum begitu						
transducin berinteraksi dengan metarhodopsin II, GDP terlepas , dan posisinya digantikan						
molekul GTP. Sekarang, dua protein dan sebuah molekul kimia terikat bersama dengan sebutan						
GTP- transducin-metarhodopsin II beserta ikatanya, phosphodiesterase memiliki kemampuan						
untuk 'memotong' molekul cGMP awalnya cGMP melimpah, namun kepadatannya menurut						
akibat phosphodiesterase, seperti halnya air di bak mandi berkurang ketika sumbat dilepas.						
Protein lain yang mengikat cGMP adalah kanal ion, bertindak sebagai opengatur jumlah ion						
sodium dalam sel.						
Lumrahnya Kanal ion mengizinkan ion sodium untuk mengalir ke dalam sel , sementara protein						
lain dengan aktif memompa keluar lagi. Aksi ganda kanal ion dan protein lain ini menjaga						
kadar ion sodium dalam batasan yang sempit. Ketika jumlahcGMP berkurang disebabkan						
pemotongan oleh phosphodiesterase, kanal ion menutup. Menyebabkan konsentrasi ion sodium						
bermuatan positif dalam sel berkurang. Hal ini menyebabkan ketidakseimbangan diantara						
membran sel, yang akhirnya, menyebabkan adanya arus dialirkan melalui saraf penglihatan ke						
otak . Hasilnya, ketika diterjemahkan oleh otak, adalah penglihatan (dikuti dari Michael Behe.						
Darwin's Black Box, New york: Free Press, 1996, hlm. 18-21).						
Keterangan ini hanyalah penjelasan singkat dan penyederhannan tentang bagaimana kita						
melihat. Andaikan kejadiannya sperti ini, kita tiddak akan bisa melihat. Andaikan dalam sel						
hanya terjadi reaksi seperti itu, maka persedian 11-cis-retinal, cGMP dan ion sodium akan						
cepat habis. Begitu banyak mekanisme yang memungkinkan sel untuk kembali ke keadaan						
semula. Reaksi yang dijelaskan tersebut jauh dari penjelasan lengkap reaksi biokimia						
penglihatan dan hanya penyederhanaan. Bagaimanapun, penjelasan tersebut menunjukkan						
bahwa melihat merupakan mekanisme yang rumit dan sempurna, yang tidak mungkin muncul						
sebagai hasil evolusi. Persyaratan pertama agar sistem ini bekerja adalah sel retina tersebut harus						
mampu mengenali foton ketika menimpanya						

			Amplifi	caation	L		Т	ransl	ation	Qual	ity ass	essm	ent	
		te	chnique	e criter	ia	A	ccura	acy	Acc	eptal	bility	Rea	adabi	ility
No.	Sentence	Ex	Add	Ph	Ft	3	2	1	3	2	1	3	2	1
120	The photon's energy activates a complex molecule called "rhodopsine", large quantities of which are contained in these cells. The rhodopsine in turn activates other cells and <i>those</i> activate still others in turn.	v					v		v			v		
	Energi foton mengaktifkan "rhodopsin", suatu molekul kompleks yang banyak terkandung dalam sel retina. Se-lanjutnya rhodopsin mengaktifkan sel-sel lain, dan <i>sel lain tersebut</i> pada gilirannya mengaktifkan sel yang lain lagi.	ľ					v		v			v		
121	For that to happen, the photon must carry an exact amount of energy: if <i>it</i> is too much or too less,	\mathbf{v}				$ _{\rm V}$			V			v		
	Agar terjadi, foton harus membawa jumlah energi yang sesuai: Jika <i>energi</i> tersebut terlalu banyak atau kurang	V				•			`			V		
122	For that to happen, the photon must carry an exact amount of energy: if 125 it is too much or too less, <i>it</i> won't activate the formation of rhodopsine.	x 7				τ,			•			• •		
	Jika 125 energi tersebut terlalu banyak atau kurang, <i>foton</i> tidak akan mengaktifkan susunan rhodopsin.	V				V								
123	the energy levels of the Sun's radiation would also be higher and the Sun would be radiating much more destructive ultraviolet rays than <i>it</i> does.	v					v	,						
	tingkat energi radiasi matahari juga akan lebih besar dan matahari akan jauh lebih banyak meradiasikan sinar ultraviolet yang merusak daripada <i>sekarang ini.</i>						V		v			v		
124	Another interesting point concerning water is that the different colors of visible light are able to travel different distances in <i>it</i> . Below eighteen meters	v				v			1			x 7		
	Hal lain yang menarik tentang air adalah bahwa warna yang berbe-da dari cahaya tampak mampu menembus jarak yang berbeda dalam <i>air</i> . Lebih dari delapan belas meter	v				V						V		
125	The knowledge that is being gained through advances in science however is showing that, in every detail of the universe, there is an order and a plan which is created to make life possible. It is such an order that, even such a component as light, which we might never have thought about before, is so clearly "just right" that one can't help but be amazed.								x,					
	. Namun pengetahuan yang dicapai melalui kemajuan ilmu alam menunjukkan bahwa dalam setiap detail alam semesta, terdapat rancangan dan perencanaan dengan tujuan akhir kehidupan manusia. <i>Rancangan</i> yang demikian "tepat", sehingga bahkan satu unsur seperti cahaya, yang mungkin tidak pernah kita pikirkan sebelumnya, pasti akan menimbulkan ketakjuban.	V				v						v		

		Amp	lificaatio	on tech	nique		Tı	ransla	ation	Qual	ity ass	essme	nt	
			crite	ria		A	ccura	icy	Ace	eptal	bility	Rea	dabi	lity
No.	Sentence	Ex	Add	Ph	Ft	3	2	1	3	2	1	3	2	1
126	Can these really all be coincidences? Such extraordinary fine-tuning as this can be explained not by chance but only by <i>Creation</i> . This in turn shows us that the whole universe and all the details of that universe—including the light of the Sun that enables us to see Mungkinkah semua itu benar-benar kebetulan? Kesesuaian luar biasa seperti ini da-pat dijelaskan bukan dengan kebetulan, namun dengan rancangan <i>yang disengaja</i> . Ini pada gilirannya menunjukkan kepada kita bahwa seluruh alam semesta beserta seluruh detailnya	-	v				v		v			v		
127	This in turn shows us that the whole universe and all the details of that universe-including the light of the Sun that enables us to see and keeps us warm-have been specially created and arranged <i>for life</i> . Ini pada gilirannya menunjukkan kepada kita bahwa seluruh alam semesta beserta seluruh detailnya—termasuk sinar matahari yang memungkinkan kita melihat dan menjaga kita tetap hangat secara khusus telah diciptakan dan diperuntukkan <i>bagi kita</i> untuk hidup.	-	v			v			v			v		
128	Science shows that sunlight has been created for us, in other words, that <i>it</i> has been made to be "at our service".	V				\mathbf{v}			v			\mathbf{v}		
	Ilmu alam menunjukkan bahwa cahaya matahari telah diciptakan untuk kita, dengan kata lain, cahaya matahari telah diciptakan untuk ''melayani kita''.	•				•			•			Ť		
129	This, as most other of the Atheists' Arguments, proceeds from a deep Ignorance of Natural Philosophy; for if there were but half the sea that <i>now is</i>		v			τ,			v			•		
	Hal ini, seperti kebanyakan argumen ateis lainnya, berasal dari Kebutaan mendalam akan Filsafat Alamiah; karena andaikan laut hanya ada separo <i>dari kuantitasnya sekarang</i>		V			V			V			V		
130	Your body's cells contain many things but nothing so much as <i>water</i> . The biggest part of the blood that circulates everywhere in your body is of course water.		x 7			τ,			•			\mathbf{v}		
	Sel tubuh Anda mengandung pelbagai macam zat tetapi tak ada yang sebanyak <i>atau sepenting</i> air. Bagian terbesar dari darah yang beredar di setiap tem-pat dalam tubuh Anda tentu saja air.]	V			V			V			V		
131	water contracts in volume as it grows colder but it only does this down to a certain temperature $(4^{\circ}C)$ thereafter–unlike all other known liquids– <i>it</i> suddenly begins to expand								•					
	volume air menyusut ketika suhunya turun, namun ini berlaku hanya sampai pada suhu tertentu (4OC) dan seterusnya— tidak seperti semua zat cair lainnya yang diketahui— <i>air</i> tiba-tiba mengembang	V				v			V			v		

			Amplifi				Т	ransla	ation	Quali	ity ass	essme	ent	
		te	chniqu	e critei	ria	A	ccura	ıcy	Acc	eptal	oility	Rea	ıdabi	ility
No.	Sentence	Ex	Add	Ph	Ft	3	2	1	3	2	1	3	2	1
132	According to the normal laws of physics, solid water, which is to say ice, ought to be heavier than liquid water and should sink to the bottom when <i>it</i> forms; instead, it floats.	v				•						\mathbf{v}		
	Menurut hukum fisika normal, air padat, yang disebut es, seharus-nya lebih berat daripada air cair, dan seharusnya tenggelam ketika menjadi es; namun ternyata, <i>e</i> s mengapung.								v			V		
133	When these transitions are reversed (that is, when water freezes or vapor precipitates) heat is released. In physics the term "latent heat" is used to describe this. ⁷⁸ . The latent heat is the heat which does not change the heat of water but enables it to change it from solid state to liquid state or from liquid state to gas state. When you give heat to ice to melt it, the ice reaches to 0oC and no increase in heat occurs even if you continue to heat it. Yet, it is no longer ice; it dissolves and becomes water. This heat, which is needed to convert the solid state into the liquid state despite causing no difference in temperature is "latent" heat. The Effect of "Top-down" Freezing Ketika transisi tersebut dibalik (yaitu ketika air mem-beku atau uap mengembun, panas dilepaskan. Dalam fisika istilah "panas laten (latent heat)" digunakan untuk menggambarkan panas yang dilepas-kan tersebut. ⁷⁶) Panas Laeten adalah panas yang tidak mengubah panas air tetapi memungkinkannya mengubah diri dari bentuk padat menjadi cair atau dari bentuk cair menjadi gas. Ketika memanaskan es untuk mencairkannya, suhu es akan mencapai 0C dan tidak ada lagi kenaikan panas yang tidak menyeabkan perbedaan temperatur adalah panas "laten" Effet Pembekuan "Dari Atas ke Bawah"	-			v	v			v			v		
134	We should note here that the fifth property of water-the low thermal conductivity of ice and snow-is also crucial in this process. Because they are such poor conductors of heat	v				v			v			v		
	Perlu dijelaskan di sini bahwa sifat kelima air—daya hantar panas es dan salju yang rendah—juga penting dalam proses ini. Karena <i>es dan salju</i> merupakan penghantar panas yang buruk					V			V			V		
135	Creatures such as seals and penguins that dwell in polar regions can take advantage of <i>this</i> to reach the water beneath the ice.)								•					
	Makhluk seperti anjing laut dan pinguin yang hidup di daerah kutub dapat mengambil keuntungan dari <i>keadaan ini</i> untuk men-capai air di bawah es.)		v			v			V			v		

			Amplifi	caatio	n		Т	ansla	tion (Quali	ity ass	essme	nt	
		te	chnique	e criter	ia	A	ccura	cy	Acc	eptal	bility	Rea	ıdabi	ility
No.	Sentence	Ex	Add	Ph	Ft	3	2	1	3	2	1	3	2	1
136	This is a very critical temperature and absolutely has to be kept constant. If your body's temperature were to fall just a few degrees, many of its vital functions would fail. <i>If it rises</i> , as it does when we become ill Ini merupakan suhu kritis dan mutlak harus dijaga agar tetap konstan. Jika suhu tubuh Anda menurun hanya beberapa derajat, banyak fungsi vi-tal tubuh akan gagal. <i>Jika suhu tubuh meningkat meskipun hanya bebe-rapa derajat</i> , seperti yang terjadi ketika kita sakit		v			v			v			v		
137	However our body has a serious problem here: <i>it</i> is active all the time.	V				v			v			V		
	kan tetapi, tubuh kita memiliki masalah serius: <i>tubuh</i> aktif setiap saat.													
138	Surface tension" is defined as a behavior of the free surface of a liquid to act like an elastic skin under tension. It is caused by attractive forces between the molecules in the surface of the liquid.													
	Tegangan permukaan" didefinisikan sebagai sebuah perilaku permu-kaan-bebas dari zat cair untuk menyerupai kulit elastis di bawah penga-ruh tegangan. <i>Perilaku</i> ini disebabkan oleh gaya tarik antara molekul-molekul dalam permukaan zat cair.	V				v			V			\mathbf{V}		
139	The surface tension of water is much higher than <i>that</i> of any other known liquid.	v				•			x7			• •		
	Tegangan permukaan air jauh lebih tinggi daripada <i>tegangan</i> per-mukaan zat cair lain.					$ \mathbf{v} $			V			V		
140	This expansion exerts interior forces upon rock that causes it eventually to break up.	v				• • •			v			\mathbf{v}		
	Pengembangan ini menimbulkan tekanan di dalam batu yang akhirnya menyebabkan <i>batu</i> pecah.													
141	The reason is that beyond that size, it is not possible for nutriments and oxygen to be diffused throughout the organism. That is, <i>they</i> can no longer be taken directly into the cell nor can their by-products be discharged. Hal ini karena pada ukuran le-bih dari itu, tidak mungkin makanan dan oksigen didifusikan ke seluruh tubuh organisme. Artinya, <i>makanan dan oksigen</i> tidak bisa lagi masuk secara langsung	v				v			v			\mathbf{v}		
142	ke dalam sel, dan produk sampingannya pun tidak bisa dibuang begitu saja Cells more than 50 microns from a capillary will starve to death.This is why the human body													──
142	was so created that the capillaries form a network that pervades it completely.								\mathbf{v}					
	Sel dengan jarak 50 mikron dari kapiler akan mati kela-paran. Itulah sebabnya tubuh manusia dicip-takan sedemikian rupa sehingga kapilernya membentuk jejaring yang menjangkau se-mua sel.	V				v			V			v		

			Amplifi	caatio	n		Tr	ansla	tion (Quali	ty ass	essm	ent	
		te	chnique	e criter	ia	A	cura	cy	Acc	epta y	bilit	Rea	adabi	lity
No.	Sentence	Ex	Add	Ph	Ft	3	2	1	3	2	1	3	2	1
143	If blood is going to penetrate passages that narrow without blocking them or slowing down, <i>it</i> certainly needs to be fluid	x 7				•						• •		
	Jika darah akan menembus jalan sesempit itu tanpa terhambat atau melambat, maka <i>darah</i> harus cair,	V				\mathbf{V}			v			V		
144	These chemical elements, the building-blocks from which our hands, eyes, hair, and organs as well as all the living things-plants and animals-that are our sources of food have been specially created to serve the exact purposes that they do. ()The most important of these building-blocks is carbon. Unsur-unsur kimia tersebut, unsur pembentuk tangan, mata, rambut, dan organ-organ kita, seperti halnya semua makhluk hidup-tanaman dan binatang-yang merupakan sumber makanan kita, telah dirancang secara khusus untuk memenuhi tujuan mereka semestinya. Fisikawan Robert E. D. Clark merujuk pada keberadaan rancangan khusus dan luar biasa dalam unsur pembentuk kehidupan ketika dia berkata: "Seolah Sang Pencipta telah memberi kita seperangkat bagian- bagian pracetak yang dibuat siap untuk bekerja." 85. Di antara unsur-unsur pembentuk, karbon adalah unsur yang paling penting.		v			v			v			v		
145	Carbon is unique among the elements in the number and variety of the compounds which it can form. Over a quarter of a million have already been isolated and described, but this gives a very imperfect idea of its powers, since <i>it</i> is the basis of all forms of living matter. ⁸⁷ Tusuk sepotong daging di ujung sebatang <i>logam</i> panjang, misal-nya besi dan panaskan keduanya di atas api.	v				v			v			v		
146	Stick a piece of meat on the end of a <i>long</i> , thin piece of metal such as iron and heat the two together over a fire.			v			v		v			v		
	Tusuk sepotong daging di ujung sebatang <i>logam</i> panjang, misal-nya besi dan panaskan keduanya di atas api.			•			•		•			•		
147	Such bonds are about twenty times weaker than covalent bonds, hence their name; but they are no less crucial to the processes of organic chemistry. <i>It</i> is due to this weak bonding that the proteins that make up the building-blocks of living things are able to maintain their complex and vitally important three-dimensional structures. Ikatan ini sekitar dua puluh kali lebih lemah daripada ikatan kovalen, dari sinilah asal namanya; namun ikatan tersebut tidak kurang penting bagi proses-proses kimia organik. Berkat <i>ikatan yang</i> <i>lemah</i> ini, protein yang membangun unsur pembentuk makhluk hidup mampu menjaga struktur tiga dimensi yang rumit dan sangat vital.	v				v			v			v		

			Amplific	caatior	1		Т	ransla	ation	Qual	ity ass	essme	nt	
		te	chnique	criter	ia	A	ccura	ıcy	Acc	eptal	bility	Rea	ıdabi	lity
No.	Sentence	Ex	Add	Ph	Ft	3	2	1	3	2	1	3	2	1
148	To explain this, we have to talk briefly about the structure of proteins. Proteins are usually referred to as a "chain" of amino acids. While this metaphor is essentially correct, it is also incomplete. <i>It's</i> incomplete because for most people a "chain of amino acids" conjures up the mental image of something like a string of pearls whereas the amino acids that make up proteins have a three- dimensional structure more like a tree with leafy branches. Untuk menerangkannya, kita harus membahas secara ringkas struk-tur protein. Protein biasanya digambarkan sebagai sebuah "rantai" asam amino. Pada dasanya pengandaian ini benar, namun tidak lengkap. <i>Pengandaian</i> ini tidak lengkap, karena bagi kebanyakan orang sebuah "rantai asam amino" dibayangkan sebagai suatu untaian mutiara sedang-kan asam amino yang menyusun protein memiliki struktur tiga dimensi yang lebih menyerupai sebatang pohon dengan cabang- cabang berdaun.		v			v			V			v		
149	This is rather odd because the physical and chemical natures of covalent bonds versus weak bonds are entirely different things and independent of one another. In other words, there's no intrinsic reason why they should both require the same temperature range. And yet <i>they</i> do: Both types of bonds can only be formed and remain stable within this narrow temperature range. Dengan kata lain, tidak ada alasan menga-pa ikatan-ikatan tersebut memerlukan kisaran suhu yang sama. Namun begitulah <i>kedua ikatan</i> tersebut: Kedua tipe ikatan tersebut hanya dapat terbentuk dan tetap stabil dalam kisaran suhu yang sempit itu.	v				v			v			v		
150	And if they did not-if covalent bonds required a range of temperatures wildly different from that of weak bonds, say-then <i>it</i> would be impossible to construct the complex three-dimensional structures that proteins require. Andaikan tidak—andaikan ikatan kovalen memerlukan kisaran suhu yang sangat berbeda dari ikatan yang lemah, misalnya—maka <i>ikatan</i> tersebut tidak akan mungkin membentuk struktur tiga dimensi rumit yang dibutuhkan protein.	v				v			v			v		
151	If our bodies are made up essentially of hydrocarbons, why aren't <i>they</i> also oxidized? Jika tubuh kita tersusun terutama oleh hidrokarbon, me-ngapa <i>hidrokarbon</i> dalam tubuh tidak teroksidasi juga?	v				v			v			v		
152	Our bodies are constantly in contact with the oxygen of the air and yet they don't oxidize: <i>they</i> don't catch fire. Why not? Tubuh kita secara terus-menerus berhubungan dengan oksigen da-lam udara namun tidak teroksidasi: <i>tubuh</i> tidak terbakar. Mengapa tidak?	v				v			v			V		

			Amplifi	caatio	n		Tr	ansla	tion (Quali	ty ass	essme	nt	
		te	chnique	e critei	ria	A	ccura	icy	Acc	eptab	oility	Rea	dab	ility
No.	Sentence	Ex	Add	Ph	Ft	3	2	1	3	2	1	3	2]
153	A catalyst is a substance that initiates a chemical reaction and allows <i>it</i> to proceed under different conditions (such as lower temperature etc) than would otherwise be possible. ⁹² Katalis adalah senyawa yang memulai sebuah reaksi kimia dan memungkinkan <i>reaksi</i> tersebut berlanjut dalam keadaan berbeda (misalnya suhu yang lebih rendah, dan lain- lain) yang mestinya tidak mungkin apabila tanpa katalis. ⁹³	v				v			v			V		
154	A catalyst is a substance that initiates a chemical reaction and allows it to proceed under different conditions (such as lower temperature etc) than would otherwise be possible () ⁹² Katalis adalah senyawa yang memulai sebuah reaksi kimia dan memungkinkan reaksi tersebut berlanjut dalam keadaan berbeda (misalnya suhu yang lebih rendah, dan lain- lain) yang mestinya tidak mungkin <i>apabila tanpa katalis</i> . ⁹³	v				v			v			v		
155	While we're on the subject we should also point out that this <i>enzyme system</i> is a marvellous example of Creation that no evolutionary theory holding that life developed as a result of chance events can ever hope to explain. ⁹³ . The question of how the complicated enzyme system enabling oxygen intake by the respiratory system emerged is one of the questions the theory of evolution fails to explain. This system has an irreducible complexity, in other words, the system can not function unless all of its components function perfectly. For this reason, it is unlikely to say that the system developed from the simple form to the more complex, as evolution suggests. Prof. Ali Demirsoy, a biologist from Ankara Hacettepe University and a prominent advo-cate of the theory of evolution in Turkey, makes the following confession about this sub-ject: "However, there is a major problem here. Mitochondria use a fixed number of enzymes stops the functioning of the whole system. Besides, energy gain with oxygen does not seem to be a system which can proceed step by step. Only the complete system performs its function. That is why, instead of the step by step development to which we have adhered so far as a principle, we feel the urge to embrace the suggestion that, all the enzymes (Krebs enzyme) needed to perform the reactions of the mitochondria entered a cell all at once by coincidence or, were formed in that cell all at once. That is merely because those systems failing to use oxygen fully, in other words, those systems remaining in the intermediate level would disappear as soon as they react with oxygen." (Ali Demirsoy, The Sound as the system of the subject and the system of the system does not seem to be a system which can proceed step by step. Only the complete system performs its function. That is why, instead of the step by step development to which we have adhered so far as a principle, we feel the urge to embrace the suggestion that, all the enzymes (Krebs enzyme) needed to perform the reactions of the mitochondria				v	v			v			v		

	While the mark ability of the formation of only one of the market of the second start in the formation of th		 			 				
	While the probability of the formation of only one of the enzymes (special proteins) Prof.									
	Demirsoy mentions above, saying "we have to accept that they formed all of a sudden by									
	coincidence" is 1 over 10950, it is certainly unreasonable to put forward that many en-									
	zymes of that sort formed by coincidence There is yet another precaution that has been									
	taken									
	Selagi dalam bahasan ini, perlu ditunjukkan pula bahwa sistem en-zim merupakan contoh									
	rancangan yang begitu mengagumkan sehingga teori evolusi yang menyatakan bahwa									
	kehidupan muncul kebetulan tidak akan pernah mampu menjelaskannya.									
	⁹⁴)Bagaimana sistem enzim yang rumit memungkinkan pemasukan oksigen oleh sistem									
	pernapasan yang muncul adalah salah satu pertanyaan yang gagal diterangkan oleh									
	teori evolusi. Sistem ini memiliki kerumitan yang tidak dapat disederhanakan. Dengan									
	kata lain, sistem tersebut tidak dapat berfungsi jika semua senyawanya tidak berfungsi									
	secara sempurna. Oleh karena iu, tidak mungkin sistem tersebut berkembang dari									
	bentuk sederhana menjadi bentuk yang lebih rumit, seperti yang dinyatakan teori									
	evolusi. Prof. Ali Demisrsoy, seorang ahli biologi dari Universitas Ankara Hacettepe									
	dan seorang pendukung terkemuka teori evolusi di Turki, membuat pengakuan tentang									
	masalah ini: "Namun, ada masalah besar disini. Mitokondria mengguanakan sejumlah									
	tertentu enzim dalam proses pemecahan (dengan oksigen). Ketidakhadiran salah satu									
	saja enzin tersebut menghentikan fungsi seluruh sistem. Selain itu, pertambahan energi									
	dengan oksigen agaknya bukan sistem yang dapat berjalan langkah demi langkah.									
	Hanya sistem lengkap yang dapat melakukan fungsinya. Itulah sebabnya, alih-alih									
	perkembangan selangkah demi selangkah yang selama ini kiata anggap sebagai prinsip,									
	kami merasakan desakan untuk menerima saran bahwa, semua enzim (enzim Krebs)									
	ayang diperlukan untuk menghasilkan reaksi mitokondria memasukui sebuah sel									
	sekaligus secara kebetulan, atau semuanya terbentuk di dalam sel itu secara bersamaan.									
	Itu hanya karena sistem-sistem itu, yang gagal menggunakan oksigen sepenuhnya,									
	dengan kata lain, yang tersisa pada level menengah , akan menghilang segera ketika									
	mereka bereaksi dengan oksigen." (Ali Demirsoy, The Basir; Laws of Life; General									
	zoology, Volume 1, Section 1, Ankara, 1998hlm.578). Sedangkan peluang pembentukan									
	salah satu enzim saja (protein Khusus) yang oleh prof. Demirsoy dikatakan; "Kita									
	harus menerima bahwa enzim tersebut tiba-tiba terbentuk secara kebetulan" adalah 1									
	berbanding 10950. Sangat tidak masuk akal menyatakan bahwa banyak enzim seperti itu									
	terbentuk secara kebetulan.									
156	Terdapat pencegahan lain agar tubuh kita tidak terbakar				-+	 				
156	Oxygen is, in fact, a rather dangerous substance: if an organism gets too much of it, the									
	result can be fatal.	\mathbf{v}		,	v	v			\mathbf{V}	
	Jika sebuah organis-me mendapatkan terlalu banyak <i>oksigen</i> , akibatnya bisa fatal.	v			v	v			v	
	ana acount organia-nie menoapatkan tertato oanyak okargen, aktoatnya oisa iatai.									

			Amplifi	caatio	1		Т	ransl	ation	Qual	ity ass	essme	nt	
		te	chnique	e criter	ia	A	ccura	ıcy	Aco	ceptal	bility	Rea	adabi	lity
No.	Sentence	Ex	Add	Ph	Ft	3	2	1	3	2	1	3	2	1
157	If the water-solubility of oxygen were higher on the other hand, you would be confronted by the threat of oxygen toxicity, mentioned briefly above. Oxygen is, in fact, a rather dangerous substance: if an organism gets too much of it, the result can be fatal. Some of the oxygen in the blood enters into a chemical reaction with the blood's water. If the amount of dissolved oxygen becomes too high, the result is the production of highly reactive and damaging by-products. One of the functions of the complex system of blood enzymes is to prevent <i>this</i> from happening. Sebaliknya, jika daya larut oksigen dalam air lebih tinggi, Anda akan dihadapkan pada ancaman keracunan oksigen, yang dijelaskan di atas. Sebetulnya, oksigen merupakan zat yang berbahaya: Jika sebuah organis-me mendapatkan terlalu banyak oksigen, akibatnya bisa fatal. Sebagian oksigen dalam darah bereaksi dengan air darah. Jika jumlah oksigen yang terlarut terlalu tinggi, maka dihasilkan zat yang sangat reaktif dan merusak. Salah satu fungsi sistem enzim darah yang rumit adalah untuk mencegah <i>keracunan</i> itu terjadi.		v			v			v			v		
158	Three elements-arsenic, tin, and tungsten-are to be found in some living things where <i>they</i> perform functions that are not completely understood.	\mathbf{v}				x 7			V	-		v		
	Tiga unsur—arsenik, timah, dan tungsten—ditemukan pada beberapa makhluk hidup di mana <i>unsur-unsur</i> tersebut melakukan fungsi yang tidak bisa benar-benar dipahami.	V				`			V			ľ		
159	Certainly this is proof of the existence of a superior creator who brought this universe into being for this purpose. Whatever property of matter we may examine, we behold in it the infinite knowledge, wisdom, and power of Allah, Who created <i>it</i> from nothingness. Every thing bows to His will and that is why each and every thing is in perfect harmony with everything else. Tentu saja ini merupakan bukti keberadaan Sang Pencipta yang men-jadikan alam semesta untuk tujuan ini. Apa pun sifat materi yang kita kaji, kita menyaksikan di dalamnya pengetahuan, kebijaksanaan, dan kekua-tan tidak terbatas dari Sang Pencipta. Allah menciptakan <i>benda-benda tersebut</i> dari ketiadaan. Setiap benda tunduk pada kehendak-Nya, dan itulah sebabnya setiap dan segala sesuatu berada dalam keharmonisan yang sempurna satu sama lain.	v				v			v			v		

	Parilant, data manakili papilaian teriamahan yang dilan	tagorilan dangar	n tingkat keakuratan, keterbacaan dan keberterimaan menengah:
	4,9,11,14,16,19,21,22,24,25,26,27,28,29,30,31,33,	38,41,58,67,71,7	79,85,90,96,104,107,108,112,117,119,121,124,127 dan 147
No.	Pertanyaan	Nomor Data	Pertimbangan
1	Dari data tersebut secara umum, data manakah yang paling		Terjemahan sebenarnya sudah cukup akurat, tetapi ada satu kata yang
	mendekati terjemahan sempurna/ (data dengan rating 3) namun	4	diterjemahkan secara berbeda meskipun maknanya tidak begitu jauh, yakni kata
	ditulis dengan rating menengah/ (rating 2)?		faith menjadi 'filsafat'.
2	Dari data tersebut secara umum, data manakah yang paling		Teks terjemahan agak sulit untuk dipahami karena ada ragam tidak baku seperti
	mendekati terjemahan tidak memadai/ (data dengan rating 1)	57(53)	pada frasa 'sebegitu kuatnya', tidak jelasnya rujukan partikel '-nya' pada kata
~	namun ditulis dengan rating menengah/ (rating 2)?		'dilakukannya' dan tidak jelasnya makna 'sedikit lebih lemah'
Ca	tatan! Dengan kategori tingkat keakuratan, keterbacaan dan keberteri	imaan menengah	sesuai data si atas, di bawah ini apabila tidak terdapat data yang termasuk dalam
	technik Explicitation, A	ddition Pharapra	se dan footnote tidak perlu di isi.
No		Nomor Data	Pertimbangan
1	Dari data tersebut untuk kategori explicitation, data manakah		Secara kata-per kata teks terjemahan tidak equivalen dengan teks asli tetapi
	yang paling mendekati terjemahan sempurna/ (data dengan	121(112)	maknanya justru menjadi mudah dipahami karena gaya bahasanya disesuaikan
	rating 3) namun ditulis dengan rating menengah/ (rating 2)?	Ì Ì Í	dengan bahasa sasaran.
2	Dari data tersebut untuk kategori explicitation, data manakah		Terdapat kesalahan explicitation pronomina 'it' yang seharusnya mengacu pada
	yang paling mendekati terjemahan tidak memadai/ (data dengan	58(54)	'bahan bakar matahari' tetapi ditulis 'matahari' saja sehingga menimbulkan
	rating 1) namun ditulis dengan rating menengah/ (rating 2)?		salah pengertian
3	Dari data tersebut untuk kategori Addition, data manakah yang		Penerjemahan sudah, tepat hanya ada penambahan kata 'bumi' setelah kata
	paling mendekati terjemahan sempurna/ (data dengan rating 3)	85(79)	'geografi' yang sebenarnya tidak perlu. Namun hal ini tidak mengubah makna
	namun ditulis dengan rating menengah/ (rating 2)?		hasil terjemahan
4	Dari data tersebut untuk kategori Addition, data manakah yang		Terlalu banyak penambahan informasi yang tidak terdapat pada teks BSu dan
	paling mendekati terjemahan tidak memadai/ (data dengan rating	15	hanya berdasarkan keyakinan/pendapat penulis.
	 namun ditulis dengan rating menengah/ (rating 2)? 		
5	Dari data tersebut untuk kategori Pharaprase, data manakah		Hasil terjemahan secara umum sudah cukup akurat. Hanya terdapat ketidak
	yang paling mendekati terjemahan sempurna/ (data dengan	71(66)	sepadanan paraphrase a special menjadi 'yang disengaja' meskipun tidak
	rating 3) namun ditulis dengan rating menengah/ (rating 2)?		mepengaruhi makna terjemahan secara signifikan.
6	Dari data tersebut untuk kategori Pharaprase, data manakah		Penerjemahan dengan paraphrase dari his own materialist bent menjadi
	yang paling mendekati terjemahan tidak memadai/ (data dengan	22	'meskipun kecenderungannya tetap mengarah pada materialisme' tidak akurat
	rating 1) namun ditulis dengan rating menengah/ (rating 2)?		Seharusnya 'meskipun paham materialismenya sudah berubah'.
7	Dari data tersebut untuk kategori Foot Note, data manakah yang		
	paling mendekati terjemahan sempurna/ (data dengan rating 3)		-
	namun ditulis dengan rating menengah/ (rating 2)?		
8	Dari data tersebut untuk kategori Foot Note, data manakah yang		
	paling mendekati terjemahan tidak memadai/ (data dengan rating		-
	 namun ditulis dengan rating menengah/ (rating 2)? 		

Appendix 7 First Rater's Open Questionaire

	Brikut, Pertanyaan tambahan berkaitan dengan teknik Amplifikasi								
No.	Pertanyaan	penjelasan							
1	Perbedaan antara Explicitation dengan Addition.	 Explicitation adalah penjelasan dari sesuatu yang sudah disebutkan sebelumnya. Biasanya penjelasan ini berupa penyebutan nama atau nama diri (proper name) dari nomina atau pronomina pada teks BSu yang tidak bisa diterjemahkan secara tepat dengan BSa. Contoh: BSa: Bats are nocturnal animals. They search for preys at night. BSu: Kelelawar adalah hewan malam. Kelelawar mencari mangsa di malam hari. Pada teks BSa kata 'they' yang mengacu pada 'kelelawar' tidak diterjemahkan menjadi 'mereka' karena kurang berterima. Oleh karena itu dilakukan explicitation dengan tetap menerjemahkan pronomina 'they' tetap sebagai 'kelelawar' Addition merupakan penambahan kata, frasa, atau klausa pada BSa yang sma sekali tidak ada rujukannya pada BSu. Fungsi addition ini untuk memberikan penjelasan pada teks BSa yang mungkin sulit untuk dipahami apabila diterjemahkan secara apa adanya atau tanpa penjelasan. Contoh: BSu: Children prepared themselves for Halloween party. BSa: Anak-anak mempersiapkan diri untuk pesta Halloween, yakni pesta pada malam 31 Oktober ketika orang-orang berdandan dengan pakaian yang menyeramkan. 							
2	Perbedaan Antara explicitation dengan Pharaprase	Explicitation (sudah dijelaskan di atas) Paraphrase adalah pengungkapan makna/maksud yang sama dalam kalimat yang berbeda. Dalam penerjemahan, paraphrase ini biasanya menggunakan teknik free translation dan bukan word-for-word ataupun literal translation. Berbeda dengan explicitation pada paraphrase tidak ada penjelasan terhadap teks aslinya. Contoh: BSu: American people celebrate the independence of their country on the 4 th of July. BSa: Hari kemerdekaan Amerika diperingati tiap tanggal 4 Juli.							
3	Perbedaan Antara Addition Dan Pharaphrase	Pada Addition terdapat penambahan informasi yang tidak terdapat pada teks aslinya sedangkan pada Paraphrase tidak ada penambahan informasi, yang ada hanya pengubahan redaksional kalimat.							
		Kritik dan Saran							
		yang <u>sama dengan</u> Addition <u>hanya berbeda letaknya. Kalau</u> Addition di <u>dalam paragraf.</u> Footnote di <u>luar paragraf. Pada buku ini</u> footnote askan/menginformasikan sumber rujukan. Jadi teknik footnote <u>bisa diabaikan sebenarnya</u> .							
	Addition seringkali tidak bisa dinilai ketepatan penerjemahannya karena tidak ada rujukannya dalam BSa sehingga penilaiannya terletak apakah informasi yang diberikan enar atau salah berdasarkan pengetahuan penilai/pembaca.								

Pilihl	ah salah satu kriteria tinkat keakuratan terjemahan di bawah kemudian tentukan		Tran	slation	ion Quality assessment Keakuratan terjem bercetak mirin 1 3 2 V V V V V V V V V V V V V V V V V V V V V V V V V V V V V V	y assessment	
	kembali tingkat akurasi kata/kalimat yang tercetak miring!		leakurat erjemah				
No.	Sentence	3	2	1	3	2	1
4	This philosophy survivedmaterialism went into decline as a result of the influence of the () Catholic church and Christian faith.	v			• 7		
	Filsafat ini bertahanmaterialisme mulai mengalami kemun-duran karena pengaruh <i>filsafat</i> gereja Katolik dan Kristen.				V		
9	Observations indicated that the mix of these two elements in the universe was in accord with theoretical calculations of what should have been remained after the Big Bang. That drove				x 7		
	Pengamatan menunjukkan bahwa campuran kedua unsur ini di alam semesta sesuai dengan perhitungan teoretis dari apa yang seharus-nya tersisa setelah Dentuman Besar. 12 <i>Bukti itu</i> memberikan				V		
11	the laws of physics offer no reason why a contracting universe should explode again after collapsing into a single point: it ought to stay just as it is. Nor do <i>they</i> offer a reason why an expanding universe should ever begin to contract in the first place. ⁸						
	hukum-hukum fisika tidak bisa me-nerangkan mengapa alam semesta yang mengerut harus meledak lagi setelah runtuh ke dalam satu titik tunggal: ia harus tetap seperti apa ada-nya. <i>Hukum-hukum fisika</i> juga tidak bisa menerangkan mengapa alam semesta yang mengembang harus mulai mengerut lagi. ⁸		V		V		
15	In conclusion, the truth disclosed by science is this: Matter and time have been brought into being by Allah, possessor of immense power and unbound by neither time nor matter. The Signs in the Qur'an						
	Sebagai kesimpulan, kebenaran yang terungkap oleh ilmu alam adalah: Materi dan waktu telah dimunculkan menjadi ada oleh <i>pemilik kekuatan besar yang mandiri, oleh Pencipta. Allah,</i> <i>Pemilik kekuatan, pengetahuan, dan kecerdasan mutlak, telah menciptakan alam semesta</i> <i>tempat tinggal kita.</i> Tanda-Tanda Al Quran	V				V	
16	science has proven an assertion hitherto supported only by religious sources. <i>This truth</i> is the reality reality of Creation from nothingness.	• 7					
	ilmu alam telah membuktikan pandangan yang selama ini hanya didukung oleh sumber- sumber agama. <i>Kebenaran yang dipertahankan oleh sumber-sumber agama</i> adalah realitas penciptaan dari ketiadaan.	V			V		

Appendix 8 First Peer Debriefing's Accuracy Clos	ed Questionaire

Pilihla	h salah satu kriteria tinkat keakuratan terjemahan di bawah kemudian tentukan								
	kembali tingkat akurasi kata/kalimat yang tercetak miring! Sentence en if we were to write a 0 on each separate proton and on each separate neutron in entire universe-and we could throw in all the other particles for good measure-we build fall far short of writing down the figure needed. ²⁶ hkan jika kita menuliskan sebuah nol pada setiap proton dan setiap neutron di uruh jagat raya—dan kita bisa menggunakan partikel-partikel lain selebihnya—a tetap saja kekurangan tempat untuk menuliskan semua nol yang diperlukan. ²⁶ y certainly had no intention of proving Allah's existence as they pursued their work. But () y all reached the conclusion that-although some are unwillingly-universe is created by a erior power. reka tentu saja tidak bertujuan membuktikan keberadaan Allah ketika mereka melakukan terjaan mereka. Orang dapat membayangkan bahwa mereka mencapai kesimpulan tentang								
No.	Sentence	3	2	1	3	2	1		
33	Even if we were to write a 0 on each separate proton and on each separate neutron in the entire universe-and we could throw in all the other particles <i>for good measure</i> -we should fall far short of writing down <i>the figure</i> needed. ²⁶ Bahkan jika kita menuliskan sebuah nol pada setiap proton dan setiap neutron di	v			v				
	kita tetap saja kekurangan tempat untuk menuliskan semua nol yang diperlukan. 26								
38(36)	they all reached the conclusion that-although some are unwillingly-universe is created by a superior power.		v						
	mereka tentu saja tidak bertujuan membuktikan keberadaan Allah ketika mereka melakukan pekerjaan mereka. Orang dapat membayangkan bahwa mereka mencapai kesimpulan tentang rancangan alam semesta karena kehendak Mahakuasa yang tidak mereka sadari.		ľ		V				
41(39)	the universe that emerged from the Big Bang could have been much different from the one that did emerge-ours. For example	v							
	alam semesta yang muncul dari Dentuman Besar bisa saja berbeda <i>dengan alam semesta yang sudah terbentuk alam semesta kita</i> . Misalnya	V			v				
66(62)	the Sun would be about the size of soccer ballSome of the objects representing the outer planets would have to be set several kilometers <i>away</i> . Big though this might seem,		v			V			
	maka matahari sebesar bola sepakBenda yang mewakili planet terluar harus diletakkan beberapa kilometer <i>dari bola sepak</i> . Meskipun tampak begitu besar,		ľ			v			
70(66)	These huge spaces are the outcome of <i>a special</i> Creation and not a result of coincidence.	x 7			V				
	Ruang yang begitu besar ini adalah hasil dari rancangan yang disengaja dengan maksud tertentu dan bukan hasil peristiwa kebetulan.	V							
78(73)	But any objective mind without prejudice will easily understand that the universe is created and organized for mankind to live in, just as is <i>revealed</i> :								
	Namun pemikiran yang murni berda-sarkan kenyataan tanpa prasangka dapat dengan mudah memahami bahwa alam semesta diciptakan dan dikendalikan <i>oleh Allah</i> bagi manusia untuk hidup, seperti yang diungkapkan di dalam Al Quran:		V		V				

h salah satu kriteria tinkat keakuratan terjemahan di bawah kemudian tentukan	Translation Quality assessment		t				
kembali tingkat akurasi kata/kalimat yang tercetak miring!							
Sentence	3	2	1	3	2	1	
Geography also helps distribute heat equally over the earth.	V			v			
. In other words, the individual values of air's density, viscosity and pressure must all fall							
that. Dengan kata lain, nilai masing-masing kerapatan, visko-sitas dan tekanan udara harus berada dalam batas tertentu agar dapat digunakan untuk bernafas, dan nilai-nilai tersebut dalam udara	V			V			
Some are several kilometers long while others are shorter than a billionth of a centimeter and the other wavelengths are to be found in a smooth, unbroken spectrum everywhere in 98 between. Beberapa di antaranya memiliki panjang beberapa kilometer sedangkan lainnya lebih pendek dari sepermiliar sentimeter, dan panjang gelombang lain dapat ditemukan pada spektrum kontinu dan tanpa ter-sela di antara kedua angka ini.	v			V			
When we look at this part of the light we see that a large part of solar radiation falling outside the range of visible light is in the section of the spectrum called " <i>near infrared</i> ". ⁶⁵ Is infrared light good for anything? Ketika kita mengamati bagian cahaya ini, kita mendapati bahwa sebagian besar radiasi matahari yang jatuh di luar rentang cahaya tampak berada pada bagian spektrum yang disebut " <i>inframerah-dekat</i> ". ⁶⁵) Selang Inframerah dekat meliputi sinar dengan panjang gelombang 0,70 mikron, di mana cahaya tampak berakhir, hingga 1,50 mikron. Apakah sinar inframerah berguna?	v			V			
	kembali tingkat akurasi kata/kalimat yang tercetak miring! Sentence Geography also helps distribute heat equally over the earth. Geography also helps distribute heat equally over the earth. Geografi bumi juga membantu menyebarkan panas secara merata di seluruh permukaan bumi. . In other words, the individual values of air's density, viscosity and pressure must all fall within certain limits in order for it to be breathable and those of the air we breathe do exactly that. Dengan kata lain, nilai masing-masing kerapatan, visko-sitas dan tekanan udara harus berada dalam batas tertentu agar dapat digunakan untuk bernafas, dan nilai-nilai tersebut dalam udara yang kita hirup adalah <i>nilai yang tepat</i> . Some are several kilometers long while others are shorter than a billionth of a centimeter and the other wavelengths are to be found in a smooth, unbroken spectrum everywhere in 98 between. Beberapa di antaranya memiliki panjang beberapa kilometer sedangkan lainnya lebih pendek dari sepermiliar sentimeter, dan panjang gelombang lain dapat ditemukan pada spektrum kontinu dan tanpa ter-sela di <i>antara kedua angka ini</i> . When we look at this part of the light we see that a large part of solar radiation falling outside the range of visible light is in the section of the spectrum called "near infrared". ⁶⁵ Is infrared light good for anything? Ketika kita mengamati bagian cahaya tampak berada pada bagian spektrum yang disebut "inframer.d-dekat". ⁶⁵ Selang Inframerah dekat meliputi sinar dengan panjang gelombang glombang 0,70 mikron, di mana cahaya tampak berakhir, hingga 1,50 mikron. Apakah sinar in	kembali tingkat akurasi kata/kalimat yang tercetak miring! K Sentence 3 Geography also helps distribute heat equally over the earth. V Geografi bumi juga membantu menyebarkan panas secara merata di seluruh permukaan bumi. V In other words, the individual values of air's density, viscosity and pressure must all fall within certain limits in order for it to be breathable and those of the air we breathe do exactly that. V Dengan kata lain, nilai masing-masing kerapatan, visko-sitas dan tekanan udara harus berada dalam batas tertentu agar dapat digunakan untuk bernafas, dan nilai-nilai tersebut dalam udara yang kita hirup adalah <i>nilai yang tepat</i> . V Some are several kilometers long while others are shorter than a billionth of a centimeter and the other wavelengths are to be found in a smooth, unbroken spectrum everywhere in 98 between. V Beberapa di antaranya memiliki panjang beberapa kilometer sedangkan lainnya lebih pendek dari sepermiliar sentimeter, dan panjang gelombang lain dapat ditemukan pada spektrum kontinu dan tapa ter-sela di <i>antara kedua angka ini</i> . 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In other words, the individual values of air's density, viscosity and pressure must all fall within certain limits in order for it to be breathable and those of the air we breathe do exactly <i>that</i> . V Dengan kata lain, nilai masing-masing kerapatan, visko-sitas dan tekanan udara harus berada dalam batas tertentu agar dapat digunakan untuk bernafas, dan nilai-nilai tersebut dalam udara yang kita hirup adalah <i>nilai yang tepat</i> . V Some are several kilometers long while others are shorter than a billionth of a centimeter and the other wavelengths are to be found in a smooth, unbroken spectrum everywhere in 98 between. V Beberapa di antaraya memiliki panjang beberapa kilometer sedangkan laimya lebih pendek dari sepermilar sentimeter, dan panjang gelombang lain dapat ditemukan pada spektrum kontinu dan tanpa ter-sela di <i>antara kedua angka ini</i> . 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V V Dengan kata lain, nilai masing-masing kerapatan, visko-sitas dan tekanan udara harus berada dalam batas tertentu agar dapat digunakan untuk bernafas, dan nilai-nilai tersebut dalam udara yang kita hirup adalah <i>nilai yang tepat</i> . V Some are several kilometers long while others are shorter than a billionth of a centimeter and the other wavelengths are to be found in a smooth, unbroken spectrum everywhere in 98 between. V Beberapa di antaranya memiliki panjang beberapa kilometer sedangkan lainnya lebih pendek dari sepermiliar sentimeter, dan panjang gelombang lain dapat ditemukan pada spektrum kontiu dan tapa ter-sela di <i>autara kehua angka ini</i> . V V Reberapa di antaranya memiliki panjang beberapa kilometer sedangkan lainnya lebih pendek dari sepermiliar sentimeter, dan panjang gelombang lain dapat ditemukan pada spektrum kontiu dan tapa ter-sela di <i>autara kehua angka ini</i> . V	A salah satu kriteria tinkat keakuratan terjemanan di bawan kemudian tentukan kemudian tentukan kemudian tentukan kemudian tentukan kemudian tentukan kemudian tentukan kemudian tengen kendukan kendukan kemudian terjemanan Keakuratan terjemanan kembali tingkat akurasi kata/kalimat yang tercetak miring! Keakuratan terjemanan Keakuratan terjemanan sentence 3 2 1 3 Geography also helps distribute heat equally over the earth. V V V Geografi bumi juga membantu menyebarkan panas secara merata di seluruh permukaan bumi. V V V . In other words, the individual values of air's density, viscosity and pressure must all fall within certain limits in order for it to be breathable and those of the air we breathe do exactly that. V V V Dengan kata lain, nilai masing-masing kerapatan, visko-sitas dan tekanan udara harus berada dalam batas tertentu agar dapat digunakan untuk bernafas, dan nilai-nilai tersebut dalam udara yang kita hirup adalah <i>nilai yang tepat</i> . V V V Some are several kilometers long while others are shorter than a billionth of a centimeter and the other wavelengths are to be found in a smooth, unbroken spectrum everywhere in 98 between. V V V Beberapa di antaranya memiliki panjang beberapa kilometer sedangkan lainnya lebih pendek dari sepermiliar sentimeter, dan panjang gelombang lain dapat ditemukan pada spektrum kontimu dan tanpa ter-seladu angata headua angeta ini. V	3 satu kriteria tinkat keakuratan terjemahan di bawan kemudian tentukan pada sektrum kontinu dan tanpa ter-sela di antarar kedua angka tui. V V V Beberapa di antaranya memiliki panjang beberapa kilometer sedangkan laimya lebih pendek dari sepermiliar sentimeter, dan panjang gelombang lain dapat ditemukan pada spektrum kontinu dan tanpa ter-sela di antara kedua angka tui. V V V V Wen we look at this part of the light we see that a large part of solar radiation falling outside the range of visible light is in the section of the spectrum called "near infrared". ⁶⁴ Is infrared light go	

Pilihlah	salah satu kriteria tinkat keakuratan terjemahan di bawah kemudian tentukan		Trans	lation	Quality a	ssessment	t
	kembali tingkat akurasi kata/kalimat yang tercetak miring!		eakurat rjemah			ratan terj rcetak mir	
No.	Sentence	3	2	1	3	2	1
106(98)	the ultraviolet light concentrated in such a <i>miniscule band</i> ⁵⁹ is needed for the synthesis of vitamin D in humans and other vertebrates. In other words, all the radiation emitted by the Sun is essential to life Sinar ultraviolet yang berada pada <i>pita</i> begitu <i>sempit</i> ini diperlukan u-ntuk pembentukan vitamin D pada manusia dan binatang bertulang bela-kang. ⁶⁹ Selang yang sempit ini meliputi sinar ultraviolet antara 0,29 mikron sampai 0,32 mikron. Dengan kata lain, semua radiasi yang dipancarkan oleh	V			v		
108(100)	Photosynthesis is a chemical process whose name almost everyone who's ever gone to school will be familiar with. Most people however fail to realize how vitally important this process is for life on Earth or what a mystery <i>its</i> workings are. Fotosintesis adalah sebuah proses kimia yang namanya dikenal hampir oleh semua orang yang pernah bersekolah. Tetapi, kebanyakan orang tidak menyadari betapa sangat pentingnya proses ini bagi kehi-dupan di atas bumi, atau misteri apa yang ada <i>di dalam proses ini</i> .	v				v	

Pilihlał	1 salah satu kriteria tinkat keakuratan terjemahan di bawah kemudian tentukan kembali tingkat akurasi kata/kalimat yang tercetak miring!		Trans	lation	Quality a	ssessment	
	kemban ungkat akurasi kata/kanmat yang tercetak miring:		eakurat rjemah			ratan terj rcetak mi	
No.	Sentence	3	2	1	3	2	1
111(103)	When we study photosynthesis, we can't help but observe that there is a perfect balance between plant photosynthesis and the energy consumption of oxygen-breathers. Yang menarik adalah betapa cermatnya rancangan proses fotosin-tesis ini. Ketika kita mempelajarinya, tidak akan luput dari pengamatan kita bahwa ada keseimbangan yang sempurna antara fotosintesis tum-buh-tumbuhan dan penggunaan energi oleh penghirup oksigen.	v			v		
118(117)	The knowledge that is being gained through advances in science however is showing that, in every detail of the universe, there is an order and a plan which is created to make life possible. It is such an order that, even such a component as light, which we might never have thought about before, is so clearly "just right" that one can't help but be amazed. Namun pengetahuan yang dicapai melalui kemajuan ilmu alam menunjukkan bahwa dalam setiap detail alam semesta, terdapat rancangan dan perencanaan dengan tujuan akhir kehidupan	v			V		
	manusia. <i>Rancangan</i> yang demikian "tepat", sehingga bahkan satu unsur seperti cahaya, yang mungkin tidak pernah kita pikirkan sebelumnya, pasti akan menimbulkan ketakjuban.						
120(112)	The photon's energy activates a complex molecule called "rhodopsine", large quantities of which are contained in these cells. The rhodopsine in turn activates other cells and <i>those</i> activate still others in turn. Energi foton mengaktifkan "rhodopsin", suatu molekul kompleks yang banyak terkandung dalam sel retina. Se-lanjutnya rhodopsin mengaktifkan sel-sel lain, dan <i>sel lain tersebut</i> pada gilirannya mengaktifkan sel yang lain lagi.	v				V	
123(115)	the energy levels of the Sun's radiation would also be higher and the Sun would be radiating much more destructive ultraviolet rays than <i>it</i> does. tingkat energi radiasi matahari juga akan lebih besar dan matahari akan jauh lebih banyak meradiasikan sinar ultraviolet yang merusak daripada <i>sekarang ini</i> .	V			V		
126(118)	Can these really all be coincidences? Such extraordinary fine-tuning as this can be explained not by chance but only by <i>Creation</i> . This in turn shows us that the whole universe and all the details of that universe-including the light of the Sun that enables us to see Mungkinkah semua itu benar-benar kebetulan? Kesesuaian luar biasa seperti ini da-pat dijelaskan bukan dengan kebetulan, namun dengan rancangan <i>yang disengaja</i> . Ini pada gilirannya menunjukkan kepada kita bahwa seluruh alam semesta beserta seluruh detailnya	v			V		

Pilihl	ah salah satu kriteria tinkat keakuratan terjemahan di bawah kemudian tentukan		Tran	slation	Quality a	v	ıt
	kembali tingkat akurasi kata/kalimat yang tercetak miring!		eakura erjemah				
No.	Sentence	3	2	1	3	2	1
4	This philosophy survivedmaterialism went into decline as a result of the influence of the () Catholic church and Christian faith.						
	Filsafat ini bertahanmaterialisme mulai mengalami kemun-duran karena pengaruh <i>filsafat</i> gereja Katolik dan Kristen.	v					V
9	Observations indicated that the mix of these two elements in the universe was in accord with theoretical calculations of what should have been remained after the Big Bang. <i>That</i> drove						• 7
	Pengamatan menunjukkan bahwa campuran kedua unsur ini di alam semesta sesuai dengan perhitungan teoretis dari apa yang seharus-nya tersisa setelah Dentuman Besar. 12 <i>Bukti itu</i> memberikan			V			V
11	the laws of physics offer no reason why a contracting universe should explode again after collapsing into a single point: it ought to stay just as it is. Nor do <i>they</i> offer a reason why an expanding universe should ever begin to contract in the first place. ⁸						
	hukum-hukum fisika tidak bisa me-nerangkan mengapa alam semesta yang mengerut harus meledak lagi setelah runtuh ke dalam satu titik tunggal: ia harus tetap seperti apa ada-nya. <i>Hukum-hukum fisika</i> juga tidak bisa menerangkan mengapa alam semesta yang mengembang harus mulai mengerut lagi. ⁸			V	V		
15	In conclusion, the truth disclosed by science is this: Matter and time have been brought into being by Allah, possessor of immense power and unbound by neither time nor matter. The Signs in the Qur'an Sebagai kesimpulan, kebenaran yang terungkap oleh ilmu alam adalah: Materi dan waktu telah dimunculkan menjadi ada oleh pemilik kekuatan besar yang mandiri, oleh Pencipta. Allah, Pemilik kekuatan, pengetahuan, dan kecerdasan mutlak, telah menciptakan alam semesta tempat tinggal kita. Tanda-Tanda Al Quran			v			v
16	science has proven an assertion hitherto supported only by religious sources. <i>This truth</i> is the reality reality of Creation from nothingness. ilmu alam telah membuktikan pandangan yang selama ini hanya didukung oleh sumber-			v			v
	sumber agama. Kebenaran yang dipertahankan oleh sumber-sumber agama adalah realitas penciptaan dari ketiadaan.						

Appendix 9 Second Peer Debriefing's Accuracy Closed Questionaire

Pilihla	h salah satu kriteria tinkat keakuratan terjemahan di bawah kemudian tentukan		Translation Quality assessment Keakuratan terjemah bercetak miring 3 2 1 3 2 1 J J J J J V V V V				
	kembali tingkat akurasi kata/kalimat yang tercetak miring!						
No.	Sentence	3	2	1	3	2	1
33	Even if we were to write a 0 on each separate proton and on each separate neutron in the entire universe-and we could throw in all the other particles <i>for good measure</i> -we should fall far short of writing down <i>the figure</i> needed. ²⁶ Bahkan jika kita menuliskan sebuah nol pada setiap proton dan setiap neutron di seluruh jagat raya-dan kita bisa menggunakan partikel-partikel lain selebihnya-			v			v
38(36)	kita tetap saja kekurangan tempat untuk menuliskan <i>semua</i> nol yang diperlukan. ²⁶ they certainly had no intention of proving Allah's existence as they pursued their work. But () they all reached the conclusion that-although some are unwillingly-universe is created by a superior power.						
	mereka tentu saja tidak bertujuan membuktikan keberadaan Allah ketika mereka melakukan pekerjaan mereka. Orang dapat membayangkan bahwa mereka mencapai kesimpulan tentang rancangan alam semesta karena kehendak Mahakuasa yang tidak mereka sadari.	V			v		
41(39)	the universe that emerged from the Big Bang could have been much different from the one that did emerge-ours. For example alam semesta yang muncul dari Dentuman Besar bisa saja berbeda dengan alam semesta yang sudah terbentuk alam semesta kita. Misalnya	v			V		
66(62)	the Sun would be about the size of soccer ballSome of the objects representing the outer planets would have to be set several kilometers <i>away</i> . Big though this might seem, maka matahari sebesar bola sepakBenda yang mewakili planet terluar harus diletakkan beberapa kilometer <i>dari bola sepak</i> . Meskipun tampak begitu besar,		v			v	
70(66)	These huge spaces are the outcome of <i>a special</i> Creation and not a result of coincidence.			T 7			• • •
	Ruang yang begitu besar ini adalah hasil dari rancangan yang disengaja dengan maksud tertentu dan bukan hasil peristiwa kebetulan.			V			
78(73)	But any objective mind without prejudice will easily understand that the universe is created and organized for mankind to live in, just as is <i>revealed</i> :	v			17		
	Namun pemikiran yang murni berda-sarkan kenyataan tanpa prasangka dapat dengan mudah memahami bahwa alam semesta diciptakan dan dikendalikan <i>oleh Allah</i> bagi manusia untuk hidup, seperti yang diungkapkan di dalam Al Quran:		V				

Pilihlal	h salah satu kriteria tinkat keakuratan terjemahan di bawah kemudian tentukan	Translation Quality assessme		ssessmen	ent		
	kembali tingkat akurasi kata/kalimat yang tercetak miring!		eakura erjemah			ratan ter rcetak mi	jemahan iring
No.	Sentence	3	2	1	3	2	1
84(79)	Geography also helps distribute heat equally over the earth.	v			V		
	Geografi <i>bumi</i> juga membantu menyebarkan panas secara merata di seluruh permukaan bumi.				•		
89(83)	. In other words, the individual values of air's density, viscosity and pressure must all fall within certain limits in order for it to be breathable and those of the air we breathe do exactly <i>that</i> .		V				
	Dengan kata lain, nilai masing-masing kerapatan, visko-sitas dan tekanan udara harus berada dalam batas tertentu agar dapat digunakan untuk bernafas, dan nilai-nilai tersebut dalam udara yang kita hirup adalah <i>nilai yang tepat</i> .					V	
95(87)	Some are several kilometers long while others are shorter than a billionth of a centimeter and the other wavelengths are to be found in a smooth, unbroken spectrum everywhere in 98 <i>between</i> .			v			v
	Beberapa di antaranya memiliki panjang beberapa kilometer sedangkan lainnya lebih pendek dari sepermiliar sentimeter, dan panjang gelombang lain dapat ditemukan pada spektrum kontinu dan tanpa ter-sela di <i>antara kedua angka ini</i> .			v			v
103(95)	When we look at this part of the light we see that a large part of solar radiation falling outside the range of visible light is in the section of the spectrum called " <i>near infrared</i> ". ^{ss} Is infrared light good for anything?						
	Ketika kita mengamati bagian cahaya ini, kita mendapati bahwa sebagian besar radiasi matahari yang jatuh di luar rentang cahaya tampak berada pada bagian spektrum yang disebut "inframerah-dekat". ⁶⁶) Selang Inframerah dekat meliputi sinar dengan panjang gelombang 0,70 mikron, di mana cahaya tampak berakhir, hingga 1,50 mikron. Apakah sinar inframerah berguna?	v			v		
		1					

Pilihlah	salah satu kriteria tinkat keakuratan terjemahan di bawah kemudian tentukan		t				
	kembali tingkat akurasi kata/kalimat yang tercetak miring!						
No.	Sentence	3	2	1	3	2	1
106(98)	the ultraviolet light concentrated in such a <i>miniscule band</i> ⁵⁰ is needed for the synthesis of vitamin D in humans and other vertebrates. In other words, all the radiation emitted by the Sun is essential to life Sinar ultraviolet yang berada pada <i>pita</i> begitu <i>sempit</i> ini diperlukan u-ntuk pembentukan vitamin D pada manusia dan binatang bertulang bela-kang. ⁶⁰) Selang yang sempit ini meliputi sinar ultraviolet antara 0,29 mikron sampai 0,32 mikron. Dengan kata lain, semua radiasi yang dipancarkan oleh		v			v	
108(100)	Photosynthesis is a chemical process whose name almost everyone who's ever gone to school will be familiar with. Most people however fail to realize how vitally important this process is for life on Earth or what a mystery <i>its</i> workings are. Fotosintesis adalah sebuah proses kimia yang namanya dikenal hampir oleh semua orang yang pernah bersekolah. Tetapi, kebanyakan orang tidak menyadari betapa sangat pentingnya proses ini bagi kehi-dupan di atas bumi, atau misteri apa yang ada <i>di dalam proses ini</i> .	v			V		

Pilihlah salah satu kriteria tinkat keakuratan terjemahan di bawah kemudian tentukan kembali tingkat akurasi kata/kalimat yang tercetak miring!			Translation Quality assessment							
	Kembali tiligkat akurasi kata/kalinat yang tercetak ini ing.		eakurat erjemah		Keakuratan terjemah bercetak miring					
No.	Sentence	3	2	1	3	2	1			
111(103)	When we study photosynthesis, we can't help but observe that there is a perfect balance between plant photosynthesis and the energy consumption of oxygen-breathers. Yang menarik adalah betapa cermatnya rancangan proses fotosin-tesis ini. Ketika kita mempelajarinya, tidak akan luput dari pengamatan kita bahwa ada keseimbangan yang sempurna antara fotosintesis tum-buh-tumbuhan dan penggunaan energi oleh penghirup oksigen.		v			v				
118(117)	The knowledge that is being gained through advances in science however is showing that, in every detail of the universe, there is an order and a plan which is created to make life possible. It is such an order that, even such a component as light, which we might never have thought about before, is so clearly "just right" that one can't help but be amazed. Namun pengetahuan yang dicapai melalui kemajuan ilmu alam menunjukkan bahwa dalam setiap detail alam semesta, terdapat rancangan dan perencanaan dengan tujuan akhir kehidupan manusia. Rancangan yang demikian "tepat", sehingga bahkan satu unsur seperti cahaya, yang mungkin tidak pernah kita pikirkan sebelumnya, pasti akan menimbulkan ketakjuban.	v			V					
120(112)	The photon's energy activates a complex molecule called "rhodopsine", large quantities of which are contained in these cells. The rhodopsine in turn activates other cells and <i>those</i> activate still others in turn. Energi foton mengaktifkan "rhodopsin", suatu molekul kompleks yang banyak terkandung dalam sel retina. Se-lanjutnya rhodopsin mengaktifkan sel-sel lain, dan <i>sel lain tersebut</i> pada gilirannya mengaktifkan sel yang lain lagi.		v			V				
123(115)	the energy levels of the Sun's radiation would also be higher and the Sun would be radiating much more destructive ultraviolet rays than <i>it</i> does. tingkat energi radiasi matahari juga akan lebih besar dan matahari akan jauh lebih banyak meradiasikan sinar ultraviolet yang merusak daripada <i>sekarang ini</i> .	V			V					
126(118)	Can these really all be coincidences? Such extraordinary fine-tuning as this can be explained not by chance but only by <i>Creation</i> . This in turn shows us that the whole universe and all the details of that universe-including the light of the Sun that enables us to see Mungkinkah semua itu benar-benar kebetulan? Kesesuaian luar biasa seperti ini da-pat dijelaskan bukan dengan kebetulan, namun dengan rancangan <i>yang disengaja</i> . Ini pada gilirannya menunjukkan kepada kita bahwa seluruh alam semesta beserta seluruh detailnya	v			V					

No.	Bacalah dengan seksama penggalan kalimat berikut, tentukan dan isi dengan mencentang salah satu nomor dari	Muda	ah dipa	hami	Dapat diterima		
NO.	angka 1-3!	3	2	1	3	2	1
	Namun pengetahuan yang dicapai melalui kemajuan ilmu alam menunjukkan bahwa dalam setiap detail alam			v			v
1(118)	semesta, terdapat rancangan dan perencanaan dengan tujuan akhir kehidupan manusia. Rancangan yang demikian						
1(118)	"tepat", sehingga bahkan satu unsur seperti cahaya, yang mungkin tidak pernah kita pikirkan sebelumnya, pasti						
	akan menimbulkan ketakjuban.						
2(4)	Filsafat ini bertahanmaterialisme mulai mengalami kemun-duran karena pengaruh filsafat gereja Katolik dan			V			V
2(4)	Kristen.						
2(0)	Pengamatan menunjukkan bahwa campuran kedua unsur ini di alam semesta sesuai dengan perhitungan teoretis			V			V
3(9)	dari apa yang seharus-nya tersisa setelah Dentuman Besar. Bukti itu memberikan						
	hukum-hukum fisika tidak bisa me-nerangkan mengapa alam semesta yang mengerut harus meledak lagi setelah		V			V	
4(11)	runtuh ke dalam satu titik tunggal: ia harus tetap seperti apa ada-nya. Hukum-hukum fisika juga tidak bisa						
	menerangkan mengapa alam semesta yang mengembang harus mulai mengerut lagi.						
F(10)	Jika kekuatan gaya tarik lebih besar daripada kekuatan ledakan, alam se-mesta hancur bertubrukan. Jika terjadi	V			V		
5(19)	sebaliknya						
7(21)	Satu-satunya jawaban rasional untuk pertanyaan itu adalah bahwa 23 keseimbangan itu merupakan bukti	V			V		
7(21)	rancangan sadar dan tidak mungkin ketidaksengajaan.						
8(22)	Dr. Davies mengakui sendiri hal ini, meskipun kecen-derungannya tetap mengarah pada materialisme:			V			V
9(24)	Selisih antara yang terkuat (gaya nuklir kuat) dan yang terlemah (gaya gravitasi)Jika gaya nuklir kuat sedikit lebih		V			V	
9(24)	lemah saja						
	Bahkan jika kita menuliskan sebuah nol pada setiap proton dan setiap neutron di seluruh jagat raya—dan kita bisa			v			v
10(32)	menggunakan partikel-partikel lain selebihnya—kita tetap saja kekurangan tempat untuk menuliskan semua nol						
	yang diperlukan. 26						
	mereka tentu saja tidak bertujuan membuktikan keberadaan Allah ketika mereka melakukan pekerjaan mereka.	V			V		
11(36)	Orang dapat membayangkan bahwa mereka mencapai kesimpulan tentang rancangan alam semesta karena						
	kehendak Mahakuasa yang tidak mereka sadari.						
12/20)	alam semesta yang muncul dari Dentuman Besar bisa saja berbeda dengan alam semesta yang sudah terbentuk		V			V	
12(39)	alam semesta kita. Misalnya						
12/62	maka matahari sebesar bola sepakBenda yang mewakili planet terluar harus diletakkan beberapa kilometer dari			v	v		
13(62)	bola sepak. Meskipun tampak begitu besar,						
14(55)	Ruang yang begitu besar ini adalah hasil dari rancangan yang disengaja dengan maksud tertentu dan bukan hasil	v			v		
14(66)	peristiwa kebetulan.						

Appendix 10 Third Peer Debriefing's Acceptability and Readability Closed Questionaire

No.	Bacalah dengan seksama penggalan kalimat berikut, tentukan dan isi dengan mencentang salah satu nomor dari	Muda	ıh dipa	hami	Dapat diterima		
NO.	angka 1-3!	3	2	1	3	2	1
15(74)	Namun pemikiran yang murni berda-sarkan kenyataan tanpa prasangka dapat dengan mudah memahami bahwa alam semesta	v			v		
15(74)	diciptakan dan dikendalikan oleh Allah bagi manusia untuk hidup, seperti yang diungkapkan di dalam Al Quran:						
16(79)	Geografi bumi juga membantu menyebarkan panas secara merata di seluruh permukaan bumi.	v			V		
17(00)	Dengan kata lain, nilai masing-masing kerapatan, visko-sitas dan tekanan udara harus berada dalam batas tertentu agar dapat			V		V	
17(82)	digunakan untuk bernafas, dan nilai-nilai tersebut dalam udara yang kita hirup adalah nilai yang tepat.						1
18(87)	Beberapa di antaranya memiliki panjang beberapa kilometer sedangkan lainnya lebih pendek dari sepermiliar sentimeter, dan			V			V
18(87)	panjang gelombang lain dapat ditemukan pada spektrum kontinu dan tanpa ter-sela di antara kedua angka ini.						1
	Ketika kita mengamati bagian cahaya ini, kita mendapati bahwa sebagian besar radiasi matahari yang jatuh di luar rentang			V			V
19(95)	cahaya tampak berada pada bagian spektrum yang disebut "inframerah-dekat". Selang Inframerah dekat meliputi sinar dengan						1
	panjang gelombang 0,70 mikron, di mana cahaya tampak berakhir, hingga 1,50 mikron. Apakah sinar inframerah berguna?						1
	Sinar ultraviolet yang berada pada pita begitu sempit ini diperlukan u-ntuk pembentukan vitamin D pada manusia dan			V			V
20(98)	binatang bertulang bela-kang. Selang yang sempit ini meliputi sinar ultraviolet antara 0,29 mikron sampai 0,32 mikron. Dengan						1
	kata lain, semua radiasi yang dipancarkan oleh						1
	Yang menarik adalah betapa cermatnya rancangan proses fotosin-tesis ini. Ketika kita mempelajarinya, tidak akan luput dari	v			V		
21(103)	pengamatan kita bahwa ada keseimbangan yang sempurna antara fotosintesis tum-buh-tumbuhan dan penggunaan energi oleh						1
	penghirup oksigen.						
			V			V	
23(108)	Keharmonisan sempurna ini merupakan bukti nyata rancangan yang disengaja dan direncanakan. Dengan kata lain, terdapat	v			v		1
23(108)	Pencipta tunggal						
24(1110)	Retina mengandung sel yang sensitif terhadap cahaya. Sel tersebut begitu sensitif sehingga setiap sel dapat mengenali	v			v		1
24(1110)	sekalipun hanya sebuah fo-ton yang menimpa retina. Energi foton mengaktifkan						
25(112)	Energi foton mengaktifkan "rhodopsin", suatu molekul kompleks yang banyak terkandung dalam sel retina. Se-lanjutnya	v			v		1
25(112)	rhodopsin mengaktifkan sel-sel lain, dan sel lain tersebut pada gilirannya mengaktifkan sel yang lain lagi.						1
26/115)	tingkat energi radiasi matahari juga akan lebih besar dan matahari akan jauh lebih banyak meradiasikan sinar ultraviolet yang	v			V		
26(115)	merusak daripada sekarang ini.						1
	Mungkinkah semua itu benar-benar kebetulan? Kesesuaian luar biasa seperti ini da-pat dijelaskan bukan dengan kebetulan,	V			V		
27(118)	namun dengan rancangan yang disengaja. Ini pada gilirannya menunjukkan kepada kita bahwa seluruh alam semesta beserta						1
	seluruh detailnya						1
28(137)	Tusuk sepotong daging di ujung sebatang logam panjang, misal-nya besi dan panaskan keduanya di atas api.			v			V

No.	Bacalah dengan seksama penggalan kalimat berikut, tentukan dan isi dengan mencentang salah satu nomor dari	Muda	ah dipa	hami	Dapat diterima		
NO.	angka 1-3!	3	2	1	3	2	1
	Namun pengetahuan yang dicapai melalui kemajuan ilmu alam menunjukkan bahwa dalam setiap detail alam	v			v		
1(118)	semesta, terdapat rancangan dan perencanaan dengan tujuan akhir kehidupan manusia. Rancangan yang demikian						
1(110)	"tepat", sehingga bahkan satu unsur seperti cahaya, yang mungkin tidak pernah kita pikirkan sebelumnya, pasti						
	akan menimbulkan ketakjuban.						
2(4)	Filsafat ini bertahanmaterialisme mulai mengalami kemun-duran karena pengaruh filsafat gereja Katolik dan		V			V	
2(4)	Kristen.						
3(9)	Pengamatan menunjukkan bahwa campuran kedua unsur ini di alam semesta sesuai dengan perhitungan teoretis	v			v		
5(9)	dari apa yang seharus-nya tersisa setelah Dentuman Besar. Bukti itu memberikan				v		
	hukum-hukum fisika tidak bisa me-nerangkan mengapa alam semesta yang mengerut harus meledak lagi setelah	v			v		
4(11)	runtuh ke dalam satu titik tunggal: ia harus tetap seperti apa ada-nya. Hukum-hukum fisika juga tidak bisa						
	menerangkan mengapa alam semesta yang mengembang harus mulai mengerut lagi.						
5(19)	Jika kekuatan gaya tarik lebih besar daripada kekuatan ledakan, alam se-mesta hancur bertubrukan. Jika terjadi	v			V		
2(13)	sebaliknya						
7(21)	Satu-satunya jawaban rasional untuk pertanyaan itu adalah bahwa 23 keseimbangan itu merupakan bukti	v				v	
/(21)	rancangan sadar dan tidak mungkin ketidaksengajaan.						
8(22)	Dr. Davies mengakui sendiri hal ini, meskipun kecen-derungannya tetap mengarah pada materialisme:		v			V	
9(24)	Selisih antara yang terkuat (gaya nuklir kuat) dan yang terlemah (gaya gravitasi)Jika gaya nuklir kuat sedikit lebih		v			V	
3(24)	lemah saja						
	Bahkan jika kita menuliskan sebuah nol pada setiap proton dan setiap neutron di seluruh jagat raya—dan kita bisa			v	v		
10(32)	menggunakan partikel-partikel lain selebihnya—kita tetap saja kekurangan tempat untuk menuliskan semua nol						
	yang diperlukan. 26						
	mereka tentu saja tidak bertujuan membuktikan keberadaan Allah ketika mereka melakukan pekerjaan mereka.	v			v		
11(36)	Orang dapat membayangkan bahwa mereka mencapai kesimpulan tentang rancangan alam semesta karena						
	kehendak Mahakuasa yang tidak mereka sadari.						
12(39)	alam semesta yang muncul dari Dentuman Besar bisa saja berbeda dengan alam semesta yang sudah terbentuk	v			v		
12(33)	alam semesta kita. Misalnya						
13(62)	maka matahari sebesar bola sepakBenda yang mewakili planet terluar harus diletakkan beberapa kilometer dari		v		v		
13(02)	bola sepak. Meskipun tampak begitu besar,						
14(66)	Ruang yang begitu besar ini adalah hasil dari rancangan yang disengaja dengan maksud tertentu dan bukan hasil	v			v		
14(00)	peristiwa kebetulan.						

Appendix 11 Fourth Peer Debriefing's Acceptability and Readability Closed Questionaire

No.	Bacalah dengan seksama penggalan kalimat berikut, tentukan dan isi dengan mencentang salah satu nomor dari	Muda	h dipa	hami	Dapat diterima		
NO.	angka 1-3!	3	2	1	3	2	1
45/74)	Namun pemikiran yang murni berda-sarkan kenyataan tanpa prasangka dapat dengan mudah memahami bahwa alam semesta						
15(74)	diciptakan dan dikendalikan oleh Allah bagi manusia untuk hidup, seperti yang diungkapkan di dalam Al Quran:						
16(79)	Geografi bumi juga membantu menyebarkan panas secara merata di seluruh permukaan bumi.						
	Dengan kata lain, nilai masing-masing kerapatan, visko-sitas dan tekanan udara harus berada dalam batas tertentu agar dapat						
17(82)	digunakan untuk bernafas, dan nilai-nilai tersebut dalam udara yang kita hirup adalah nilai yang tepat.						
10/07)	Beberapa di antaranya memiliki panjang beberapa kilometer sedangkan lainnya lebih pendek dari sepermiliar sentimeter, dan						
18(87)	panjang gelombang lain dapat ditemukan pada spektrum kontinu dan tanpa ter-sela di antara kedua angka ini.						
	Ketika kita mengamati bagian cahaya ini, kita mendapati bahwa sebagian besar radiasi matahari yang jatuh di luar rentang						
19(95)	cahaya tampak berada pada bagian spektrum yang disebut "inframerah-dekat". Selang Inframerah dekat meliputi sinar dengan						
	panjang gelombang 0,70 mikron, di mana cahaya tampak berakhir, hingga 1,50 mikron. Apakah sinar inframerah berguna?						
	Sinar ultraviolet yang berada pada pita begitu sempit ini diperlukan u-ntuk pembentukan vitamin D pada manusia dan						
20(98)	binatang bertulang bela-kang. Selang yang sempit ini meliputi sinar ultraviolet antara 0,29 mikron sampai 0,32 mikron. Dengan						
	kata lain, semua radiasi yang dipancarkan oleh						
	Yang menarik adalah betapa cermatnya rancangan proses fotosin-tesis ini. Ketika kita mempelajarinya, tidak akan luput dari						
21(103)	pengamatan kita bahwa ada keseimbangan yang sempurna antara fotosintesis tum-buh-tumbuhan dan penggunaan energi oleh						
	penghirup oksigen.						
	Keharmonisan sempurna ini merupakan bukti nyata rancangan yang disengaja dan direncanakan. Dengan kata lain, terdapat						
23(108)	Pencipta tunggal						
	Retina mengandung sel yang sensitif terhadap cahaya. Sel tersebut begitu sensitif sehingga setiap sel dapat mengenali						
24(1110)	sekalipun hanya sebuah fo-ton yang menimpa retina. Energi foton mengaktifkan						
	Energi foton mengaktifkan "rhodopsin", suatu molekul kompleks yang banyak terkandung dalam sel retina. Se-lanjutnya						
25(112)	rhodopsin mengaktifkan sel-sel lain, dan sel lain tersebut pada gilirannya mengaktifkan sel yang lain lagi.						
	tingkat energi radiasi matahari juga akan lebih besar dan matahari akan jauh lebih banyak meradiasikan sinar ultraviolet yang						
26(115)	merusak daripada sekarang ini.						
	Mungkinkah semua itu benar-benar kebetulan? Kesesuaian luar biasa seperti ini da-pat dijelaskan bukan dengan kebetulan,						
27(118)	namun dengan rancangan yang disengaja. Ini pada gilirannya menunjukkan kepada kita bahwa seluruh alam semesta beserta						
27(110)	seluruh detailnya						
28(137)	Tusuk sepotong daging di ujung sebatang logam panjang, misal-nya besi dan panaskan keduanya di atas api.						
20(157)	rusuk sepatang daging di ujung sebatang logani panjang, inisal-nya besi dan panaskan keduanya 01 atas api.						

No	Name	Question	Answer	Note
1	Informan 1	✓ Apakah terjemahan buku tersebut akurat? Mengapa?	 Keakurasian dalam penerjemahan kalimat "the creation of the universe was a concept that astronomi as a rule ignored" menurut saya dalam penerjemahannya sudah sesuai dan mudah dipahami oleh pembaca Kalimat "this idea of" eternal existence" fit ini well with European notions stemming from the philosophy of materialism" menurut saya makna fit itu kurang sesuai dengan makna "sesuai" dalam penerjemahannya sehingga penerjemahannya agak kurang sesuai Kalimat "there was no moment of creations- a moment when the universe and Everything in it came into being" menurut saya Keakurasian dalam kalimat tersebut sudah sesuai akan tetapi pada kata terakhirnya "it came into being" kurang sesuai dengan artinya hanya "muncul" saja, lebih enaknya muncul dalam peradaban atau lain sebagainya 	Accuracy

Appendix 12 Confirmability Interview Transkript

2	Informan 2	✓ Apakah terjemahan buku tersebut akurat? Mengapa?	Menurut Saya terjemahan ini akurat, karena buku asli Dan terjemahan sesuai walaupun beberapa kurang untuk dibaca. Namun, bahasa yang digunakan menarik Dan menarik untuk dibaca. Walaupun bahasanya simple, namun terjemahan nya bagus Dan bisa menarik pembaca.	Accuracy
3	Informant 3	 ✓ Apakah informasi dari buku tersebut mudah dipahami? Mengapa? ✓ Layakah buku tersebut diterima di masyarakat umum? Mengapa? 	 Jadi menurut saya informasi dari buku tersebut agak sulit di pahami oleh masyarakat umum karena banyak mengunakan bahasa-bahasa tertentu yang awam di dengar masyarakat umum Untuk kelayakan mungkin menurut saya buku ini layak apabila untuk pengunaan bahasanya di perbaiki agar lebih mudah di pahami. 	Acceptability Raeadability
4	Informant 4	 ✓ Apakah informasi dari buku tersebut mudah dipahami? Mengapa? ✓ Layakah buku tersebut diterima di masyarakat umum? Mengapa? 	 Sangat mudah dipahami, karena penggunaan kata"nya ringan dan tdk asing Layak, karena tulisannya mengandung informasi yang valid, dan juga menarik karena seolah-olah pembaca terbawa oleh suasana dari temanya 	Acceptability Raeadability

5	Informant 5	 ✓ Apakah informasi dari buku tersebut mudah dipahami? Mengapa? ✓ Layakah buku tersebut diterima di masyarakat umum? Mengapa? 	 Iya sangat mudah, karna pada awal saja sudah memberikan beberapa informasi dengan kata kata yang mudah di pahami Layak, karna buku ini menyediakan informasi mengenai astronomi yang jarang sekali dibahas di negeri ini, sehingga bisa menarik perhatian dari para remaja hingga dewasa. 	Acceptability Raeadability
6	Informant 6	 ✓ Apakah informasi dari buku tersebut mudah dipahami? Mengapa? ✓ Layakah buku tersebut diterima di masyarakat umum? Mengapa? 	 Hmmm iyh, karena buku ini jelas dan mudah di serap. Hmmmm iyh karena buku ini mudah dipahami olh saya 	Acceptability Raeadability