Obsessive Compulsive Disorder (OCD) and Translation: Semantic Accuracy and Time Span in Focus

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Abstract

Translation is a process which needs concentration and a relaxed mind. Obsessive compulsive disorder (OCD) is a mental disorder which causes the patients to repeat something continuously so that it is done in the best way. As both translation and OCD are mental processes, this study has investigated the relation between these two mental processes. For this purpose, at first Oxford Placement Test was given to 100 advanced university translation students. Then, 40 participants who were at the same level of language proficiency were given Yale-Brown Obsessive Compulsive Scale (Y-BOCD) test to check the degree of their disorder. They were then asked to translate a chosen text. The rater suggested 40 minutes for the translation of this text and asked the participants to estimate the duration of their translation. The data were then studied based on Holmes's map of translation studies (Holmes 1988). The results showed that OCD affects both translation accuracy and translation time. The findings of this research makes translators informed that mental processes can affect translation processes. In fact, translators with OCD need more time for translation, which causes some problems in cases when urgent translation is needed. Based on the results of this study, it is clear that translators with OCD problems are not reliable for translation tasks.

Keywords: Obsessive Compulsive Disorder, performance, semantic translation, translation accuracy

ژویشیکاه Introduction العات فریخ

According to Beheshti (2013), the importance of translation studies in today's world is nothing new or strange. With globalization coming up, it is essential for everyone to be able to communicate with the people throughout the world. As such, communication is considered to be the key to successful business. Understanding has been an important item between different countries since the beginning of human culture. Limitations of translation have always been remarkable and we have never been able to understand others' feelings.

According to Dingwaney and Maier (1995) translation is more complex than replacing source language text with target language text and includes cultural and educational nuances that can shape the options and attitudes of recipients. Translations are, they add, never produced in a cultural or political vacuum and cannot be isolated from the context in which the texts are embedded. Definitions of proper translating are almost as numerous and varied as the persons who have undertaken to discuss the subject. This diversity is in a sense quite understandable; for there are vast differences in the materials translated, in the purpose of the publication, and in the needs of the prospective audience (Nida, 1964).

As for Obsession, it is a mental disorder; while translation is a mental process. Obviously, obsession affects translation because both of them are related to the mind. In the present study, the researchers have investigated this issue to show the impact of obsession on time and accuracy of translation process.

Obsession is an anxiety disorder which can lead to some problems in all aspects of life such as economic, physical and behavioral performances. In this process, the obsessive person's mind is always busy and cannot concentrate on his/her work and that of others. People who have obsession cannot rely on themselves, do not have self-confidence and do everything scrupulously.

In the translation process, translators should get the concept of texts besides the meaning of the words. Actually, in addition to full knowledge about texts, understanding them for translation purposes needs a relax mind. As translation and obsession are mental processes, they have close relationship and affect each other. In fact, this disorder can affect translators negatively and finally cause important problems in terms of loss of meaning and time. In the current study, the researchers have tried to find the relation between obsession, translation accuracy and time of translation.

Doing all things, especially mental affairs, need a relaxed mind. As translation is a mental process, only information and knowledge about translation are not enough. The translator should concentrate on the text to choose the best equivalent and get the concept of the text which is not possible without good spiritual mood. OCD is an anxiety disorder which is characterized by uncontrollable, unwanted thoughts and repetitive, ritualized behaviors (Robinson, Smith, Segal, 2015). In this case, mind of person with obsessive-compulsive disorder concentrate on an activity and do this more and more. A translator with an anxiety disorder cannot concentrate on the text. In addition to repetition of routine activities, the translator repeats translation to do her/his best. At first, the translator chooses equivalent for a word, but as a result of OCD changes the equivalent.

As was mentioned above, changing equivalents to achieve the best result can cause failure and take time. Sometimes, the time of translation is very important and accurate translation in a short time is required, but repetition for choosing equivalents is not possible in a short time. As a matter of fact, one of the symptoms of OCD is repetition of activities which can cause problems in the process of activity. Repetition to achieve the best desired results can have an opposite result and cause failure. This study was thus conducted with the aim of checking the impact of OCD on semantic accuracy and translation time span.

Background of the study

According to Pardo (2013), the Babel myth consists of the idea of having a unique language for the whole of mankind. However, the idea of one language is not acceptable from the religious point of view since that would make humankind stronger, more powerful, which would be intolerable for God. As a result, God gave people different languages. Regrettably, this is only a myth and the origins of languages have a more linguistic explanation

Translation is the production of a functional target text maintaining a relationship with a given source text that is specified according to the intended or demanded function of the target text (Nord, in shuttleworth and Cowie, 2007, p.182). In English we use the term translation to refer to the total process and relationship of equivalent between two languages; we then distinguish, within translation, between translating (written text) and interpreting (spoken text). So I will use the term translation to cover both written and spoken equivalent; and whether the equivalent is conceived of as process or as relationship (Halliday, 1992, p. 15).

Translation is a complex act of communication in which the SL-author, the reader a translator and translator as TL-author and the TL-reader interact. The translator starts from a present frame (the text and its linguistic components); this was produced by an author who drew from his own repertoire of partly prototypical scenes. Based on the frame of the text, the translator-reader builds up his own scenes depending on his own level of experience and his internalized knowledge of the material concerned (Snell-Horby, 1988, p. 81).

Larson (1984, p. 485) believes that in every translation, accuracy, clearness and naturalness are of the great importance. Regarding the translation accuracy, she believes that in some cases, when the translator tries to get the meaning of the ST and convey it to the TT, s/he may make some mistakes, either in the analysis of the ST, or in the process of conveying the meaning, and a different meaning may result; then, there is a need for a careful check regarding the accuracy of the translation.

Obsessive compulsive disorder (OCD) is a mental disorder where people feel the need to check things repeatedly, have certain thoughts repeatedly, and feel they need to perform certain routines repeatedly. People are unable to control either the thoughts or the activities. Common activities include hand washing, counting of things, and checking to see if a door is locked. Some may have difficulty throwing things out. These activities occur to such a degree that the person's daily life is negatively affected. Often they take up more than an hour a day. Most adults realize that the behaviors do not make sense. The condition is associated with tics, anxiety disorder, and an increased risk of suicide (Angelakis, Gooding, Tarrier, Panagioti, 2015).

Treatment of OCD involves the use of behavioral therapy and sometimes selective serotonin reuptake inhibitors (SSRIs). The type of behavior therapy used involves increasing exposure to what causes the problems while not allowing the repetitive behavior to occur. Atypical antipsychotics such as quetiapine may be useful when used in addition to an SSRI in treatment-resistant cases but are associated with an increased risk of side effects. Without treatment the condition often lasts decades (Grant, 2014).

Cognitive deficits could be functioning as an intermediate variable between neurological abnormalities and OCD symptoms. Reductions in social competence and the capacity for independent living and vocational success may be the result of neurocognitive compromise. Neuropsychological testing has revealed evidence of impairment in visuospatial abilities1, non-verbal memory and executive function. However, results of the neuropsychological studies have been inconsistent (Trivedi, et al., 2008).

The OCD patients are impaired in rational decision-making and deliberation time to make a decision, whereas the number of points risked on the decisions is intact. Patients in the dimensions symmetry/order and sexual/religious are impaired in rational decision-making and patients in the dimensions safety and contamination are impaired in time taken to make a decision. Patients with safety concerns bet significantly reduced amounts of points on their decisions. Deliberation time in patients with safety concerns is impaired too. (Dittrich, Johansen, Landro, Fineberg, 2011).

Based on what was stated above, the present study addressed the following research questions:

1. To what extent does Obsessive Compulsive Disorder affect semantic accuracy in translation?

2. To what extent does OCD affect translation time span?

Methodology

Participants

The researchers asked 100 translation studies students at the non-governmental institute of higher education of Sheikh Bahai to contribute to this study. They were first, second, third and

fourth semester MA students. After the language test (OPT) was administrated, 40 students who scored 60-75 were selected as homogeneous participants for the study.

Materials

Five paragraphs of almost the same length, with different topics and the same level of difficulty were selected to be translated by the participants in this study (see Appendix). They were taken from the book, *A University Anthology for Overseas Students (1971)*.

Rater

An MA of English translation studies was the rater (Expert in translation). In addition to the researchers, the rater studied translations of the participants to investigate semantic accuracy. Also, the rater suggested that 40 minutes was enough time for the translation of the selected text. **Instruments**

Three instruments were used for the purposes of the present study:

1) The placement test (i.e. oxford placement test); the test is divided into two parts: Use of English and Listening (listening was not used for this study). Use of English is divided to two parts: part one and part two of grammar. Each part includes fifty questions. Part one includes questions 1-50 and second part includes questions 50-100.

2) The Yale–Brown Obsessive Compulsive Scale, sometimes referred to as Y-BOCS, is a test to rate the severity of obsessive–compulsive disorder (OCD) symptoms.

The scale, which was designed by Wayne Goodman and his colleagues, is used extensively in research and clinical practice to both determine severity of OCD and to monitor improvement during treatment. This scale, which measures obsessions separately from compulsions, specifically measures the severity of symptoms of obsessive–compulsive disorder without being biased towards the type of content of obsessions or compulsions present.

The scale is a clinician-rated, 10-item scale, each item rated from 0 (no symptoms) to 4 (extreme symptoms), yielding a total possible score range from 0 to 40. The scale includes questions about the amount of time the patient spends on obsessions, how much impairment or distress they experience, and how much resistance and control they have over these thoughts. The same types of questions are asked about compulsions (e.g., time spent, interference, etc.) as well. The results can be interpreted based on the total score:

*0–7 is sub-clinical

*8–15 is mild

*16–23 is moderate

*24–31 is severe

*32–40 is extreme

Patients scoring in the mild range or higher are likely experiencing a significant negative impact on their quality of life and should consider professional help in alleviating obsessive– compulsive symptoms.

A self-rated version of the Yale-Brown Obsessive-Compulsive Scale has been developed. The self-report and clinician-administered versions of the Y-BOCS are correlated to each other (Summerfeldt LJ, et. al, 2010).

3) The last instrument used in this study is a text including 5 separated paragraphs which was selected from "*A University Anthology for Overseas Students*" (1971). This book is a selection by a panel of lecturers in Egypt designed for students of universities, higher institutes and senior forms. All the lectures have been native speakers of English. Five paragraphs were selected to

translation which were written by Sir David Ross (1995), Fleming, M (1944), Dudleystam, M (1953), Nelson, and Sons (1914) and Walmsley, R. Mullineux (1913).

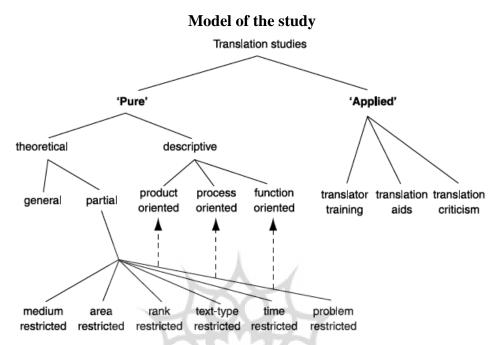


Figure 3.1 Holmes's 'map' of translation studies

The model of analysis in the present study for the translated texts was Holmes's Map which emphasizes on what goes on in the participants' mind when translating a text and the time restricted to measure the extent of psychological impact on translation performance. Actually, the study was based on process-orientation and time restriction of Holm's map.

Procedures

At first, the placement test (i.e. Oxford Placement Test) was given to 100 Iranian translation students to select 40 homogeneous participates (normal or/and obsessive compulsive disorder subjects) in terms of language proficiency. An obsession test (Yale-Brown Obsessive Compulsive Scale) was then given to the participants to determine their level of OCD. The participants were asked to translate the same texts within a fixed time span. The translations of the participants were examined by the researchers as well as a rater (expert in translation studies) in terms of semantic accuracy. The time spent by the participants was also checked. Based on the results of the investigation, the researchers made decisions about the performance of participants in connection with the extent of translation accuracy as well as translation time.

Results and discussion

In this section, the analysis of the data and the obtained results are shown in some tables and the related figures. The tables show the translations of the participants at the first, second and third levels of OCD (group one, group 2 and group 3 respectively).

Based on the tables (below) which show exemplar translations of the three groups, it was revealed that translations of the first group were not too bad, while the case is different with

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groups two and three. The translation problems in group two were less than group three but more than group one, while the translations of group three were not so good.

According to the figures and tables which show the frequency and percentage of each group, it is clear that group one was more successful than the other two groups. The first figure show that 78% of translations were accurate and only 21 % of them were inaccurate, while %43 of translations of the second group were accurate and only 35% of the translations by group three were accurate. Based on these statistics it is clear that OCD has negative influence on translation.

As for the speed of translation, it is clear that the first group translated the texts less than the determined time (the allocated time for translating this texts was 40 minutes), the second group did their job within the determined time, and the last group needed more time to do their job.

| | | | | | 1 |
|---|--|---|--------------------------|-------------------|-------------------------|
| | Sentence | Translation | Accuracy Feature | Time (Minute) | Accurate/I naccurate |
| 1 | Knowledge, according to Aristotle, is of three main kinds- theoretical, practical, or productive. | طبق نظر ارسطو دانش یکی از سه نوع تئوری، عملی و زایا می باشد. | Meaning loss | 40 | Inaccurate |
| | Sentence | Translation | Accuracy Feature | Time (Minutes) | Accurate/I naccurate |
| 2 | The teacher who wishes to understand his pupils must therefore look beyond the class- room and try to study the other communities which also form part of the field in which the youngsters are developing. | معلمی که می خواهد شاگردانش را درک کند باید فرای کلاس درس را نگریسته و سعی کند به مطالعه ی سایر جوامع که قسمتی از محیطی که جوانتر ها در آن در حال رشد می یابند بپردازد. | شور شکاه چون کاه چ | 80 | Accurate |
| | Sentence | Translation | Accuracy Feature | Time (Minute) | Accurate/I naccurate |
| 3 | Food for all is the crucial problem of the world to-day for several reasons | | | 40 | Accurate |

Table 1. Translations of group one

| | To find the | به منظور يافتن اولين محاكمه | | | |
|---|------------------------|-----------------------------|---------|----|------------|
| | | توسط هيئات منصفه بايد به | | | |
| | jury, we must go | دوران هنری دوم برگرشت | | | |
| 4 | back to the days of | | | 35 | Accurate |
| | Henry the Second. | | | | |
| | From the very | از ابتدای حیات علم | | | |
| | smallest of | الكتريسيته به وجود أمد | | | |
| 5 | beginnings the | | | | |
| | science of electricity | | Meaning | 40 | Inaccurate |
| | arose. | | Loss | | |

| Table 2 Free | mency and ner | entage of accur | ate and inaccura | te translations o | f groun one |
|---------------|-----------------|------------------|------------------|-------------------|-------------|
| Table 2. Fley | fuency and pero | tentage of accur | ate anu maccura | | n group one |

| | Frequency | Percentage |
|------------|-----------|------------|
| Accurate | 88 | 78.571% |
| Inaccurate | 24 | 21.428% |



Figure 1. Percentage of accurate and inaccurate translations of group one

| Table 3. Translations of group two | | | | | | |
|------------------------------------|-------------|---------------------|------------------|-------------------------|--|--|
| Sentence | Translation | Accuracy Feature | Time (Minute) | Accurate/ Inaccurate | | |

Table 3. Translations of group two

| | | | 1 | 1 | ,1 |
|---|--|---|---------------------|------------------|-------------------------|
| 1 | | دانش، بر طبق نظر ارسطو یکی ازسه نوع نظری، عملی یا زایا می باشد | | 0. | Accurate |
| | Sentence | Translation | Accuracy Feature | Time (Minute) | Accurate/ Inaccurate |
| 2 | The teacher who wishes to understand his pupils must therefore look beyond the class- room and try to study the other communities which also form part of the field in which the youngsters are developing. | درک دانش آموزان خود میباشد باید فراتر از کلاس (دید جامع بنگرد را ترداشته باشد) و سعی کند به مطالعه و بررسی جوامع دیگر نیز بپردازد چراکه آن هم بخشی از این زمینه را که در آن جوانان در حال پیشرفت میباشند شامل | A Her K An A | 40 | Accurate |
| | Sentence | Translation | Accuracy Feature | Time (Minute) | Accurate/ Inaccurate |
| 3 | Food for all is the crucial problem of the world to-day for several reasons | - | | ٣. | Accurate |
| 4 | To find the beginning of trial by jury, we must go back to the | محاکمه توسط هیئت منصفه باید به روزهای سلطنت | Addition | 45 | Inaccurate |

80

| | days of Henry the Second. | | | |
|---|--|---|----|----------|
| 5 | From the very smallest of beginnings the science of electricity arose. | دانش الکنریسیته برخاسته از آغازین روز های حیات است. | ٥. | Accurate |

| Table 4. Frequency | and percentage of accura | ate and inaccurate trans | slations of group two |
|--------------------|--------------------------|--------------------------|-----------------------|
| | | | |

| | Frequency | Percentage |
|------------|-----------|------------|
| Accurate | 77 | ٤3.75% |
| Inaccurate | 99 | °6.25% |

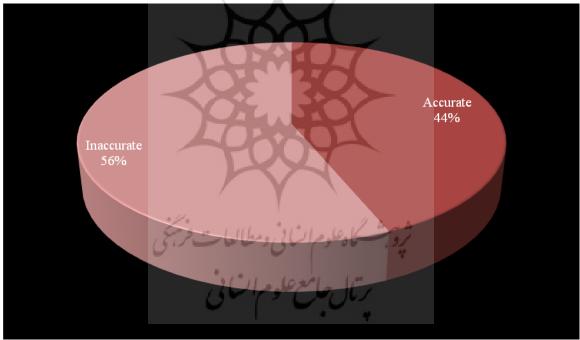


Figure 3. Percentage of accurate and inaccurate translations of group two

| Sentence | Translation | Accuracy Feature | Time (Minute) | Accurate/ Inaccurat |
|--------------------------------------|-------------------------|---------------------|------------------|------------------------|
| Aristotle is of three main kinds- | دانش، بر طبق نظر ار سطو | | | e |

Table 5. Translations of group three

| 1 | theoretical, practical, or productive. | یکی ازسه نوع نظری، عملی یا زایا می باشد. | | 50 | Accurate |
|---|--|--|--|------------------|-----------------------------|
| | Sentence | Translation | Accuracy Feature | Time (Minute) | Accurate/ Inaccurat e |
| 2 | pupilsmustthereforelookbeyond the class-room and try to | آموزگاری که دانش آموزانش را بررسی می کند بایستی فراتر از محیط مدرسه را ببیند و تلاش کند جوامع دیگری که در همین زمینه هستند مانند گروه های پائین تر در حال رشد را بررسی کند. | | 40 | Inaccurat e |
| | Sentence | Translation | Accuracy Feature | Time (Minute) | Accurate/ Inaccurat e |
| 3 | Food for all is the crucial problem of the world to-day for several reasons | امروزه غذا به دلایل مختلفی برای همه یک مسئله حیاتی است. | څروم کاه علوم پر تال حاد پر ال حاد | 80 | Accurate |
| 4 | beginning of trial | · · · · · · · · · · · · · · · · · · · | Informal and loanword | 65 | Inaccurat e |

| 5 | From the <u>very</u> <u>smallest of</u> <u>beginnings</u> the science of electricity arose. | از کوچکترین أغاز شروع علم الکتریسیته مطرح شد. | Word-for- word | 75 | Inaccurat e |
|---|---|--|-------------------|----|----------------|
|---|---|--|-------------------|----|----------------|

| Table 6. Frequency and | percentage of accurate and inaccurate translations of group three | |
|------------------------|---|--|
| | | |

| | Frequency | Percentage | 1 |
|------------|-----------|------------|---|
| Accurate | 117 | ٣٥,٣١٢% | |
| Inaccurate | ۲.۷ | ٦٤,٦٨٧% | |

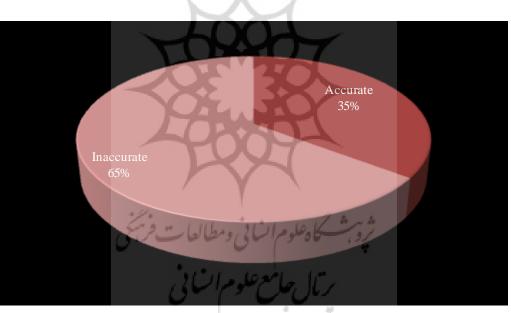


Figure 4. Percentage of accurate and inaccurate translations of group three

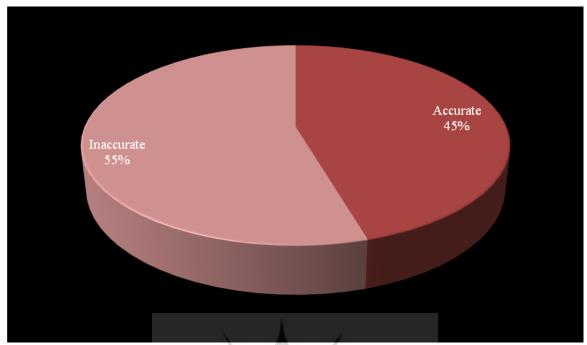


Figure 5. Percentage of accurate and inaccurate translations of all participants

Concluding remarks

People with OCD always think that they can do their job better than the first time they have done it, and so they try to repeat and repeat it. In translation, they choose an equivalent, for instance, but they change it again and again to find the best. The findings of this study showed that constant changes and repetitions cause them to choose incorrect equivalents.

According to the percentage of accurate and inaccurate translations in the present study, with an increase in the degree of OCD, the participants faced more problems in translation. Actually, 45% of translations were accurate and 55% of them were inaccurate. This revealed that OCD affects translation, but not too much, because approximately half of the sentences were translated accurately and half of them were inaccurately translated.

Also, based on the results of the study, it can be concluded that OCD affects translation time, because the participants with OCD try to change their selected equivalents continuously to achieve the best results, and this leads them to perform their task in a longer time than allowed. It means that as the level of OCD increases, translation duration increases too.

As illustrated in the tables and figures, it is true that OCD affects translation accuracy and translation time, but this effect for translation time is more than translation accuracy.

Finally, it should be noted that all psychological states generally affect translation. But the extent differs from one state to another. For instance, according to Ravakhah (2015), anxiety (which is another psychological state) does not affect translation accuracy to a significant degree, because even the translators with low levels of anxiety translate texts flatly in some cases. As for translation time, it has been seen that translators with low levels of anxiety translate texts within the determined for them, moderate anxious translators translate texts within the determined time and translators with high anxiety translate texts in a longer time than expected. It indicates clearly that anxiety, just as OCD, affects translation time, i.e. anxious people concentrate on texts with difficulty and thus, they do their job in a longer time as compared with other translators.

The findings of this study make translators and translation teachers informed that mental processes most probably affect translation processes, a reality that causes problems in cases when urgent and reliable translations are required.

References

A University Anthology for Overseas Students. (1971). A Selection by a Panel of Lecturers in Egypt Designed for Students of Universities, Higher Institutes and Senior Form. Longman.

Angelakis, I, Gooding, P,Tarrier, N, Panagioti, M .(2015). Suicidality in obsessive compulsive disorder (OCD): A systematic review and meta-analysis. *Clinical Psychology Review* 39: 1-15. doi:10.1016/j.cpr.2015.03.002. PMID 25875222.

Beheshti, Zhaleh. (2013). Obstacle of Translation Graduates in Iran.1ST Provincial conference Feizoleslam Non-governmental institute of higher education.

Bell, R.T. (1991) *Translation and Translating: Theory and Practice*, London/New York: Longman.

Dingwaney, Anuradha and Maier, Carol. (1995). Between Language and Cultures: Translation and Cross-Cultures Texts. Pittsburgh/London.

Dittrich, Winand H, et al. (2011). Cognitive Performance and Specific Deficits in OCD Symptom Dimensions: III. Decision-making and Impairments in Risky Choices. *German Journal of Psychiatry*. ISSN 1433-1055.

Dudley stamp, M. (1953). Our undeveloped world. London, Faber and Faber.

Fleming, M. (1944). The Social Psychology of Education. Published by Routledge.

Grant, JE. (2014). Clinical practice: Obsessive-compulsive disorder. *The New England Journal of Medicine* 371 (7): 64653. doi:10.1056/NEJMcp1402176.PMID 25119610.

Halliday, M.A.K. (1992). *Language Theory and Translation Practice*, Rivista internazionale di tecnica della traduzione, 0: 15-25.

Holms, J.S. (1988b/2004). The Name and nature of Translation Studies, in l.venuti (ed) (2004).

Larson, Mildred. L. (1984). *Meaning-based Translation: A Guide to Cross-language Equivalent*. Lanham/New York/London: University Press of America.

Nelson, Tomas, Sons. (1914). Highroad of History. London, T. Nelson.

Nida, Eugene A. (1964). *Toward a Science of Translating*. Leiden: E.J. Brill Ouirk, Randolph, Sidney Greenbaun, Geoffery Leech and Jan Savrtvik.

Pardo, Betlem Soler. (2013). *Translation Studies*: An Introduction to the History and Development of (Audiovisual) Translation. Universidad Alfonso X el Sabio. Villanueva de la Cañada – Madrid.

Robinson, Lawrence, Melinda, Smith, Segal, Jeanne (2015). *Symptoms and Treatment of Compulsive Behavior and Obsessive Thoughts*. A trusted non-profit guide to mental health and well-being.

Ross, Sir David. (1995). Aristotle. Published by Routledge.

Shuttleworth, M., Cowie, M. (1997, 2004). *Dictionary of Translation Studies*. Manchester: St. Jerome Publishing/ Shanghai: Shanghai Foreign Language Education Press.

Snell-Horby, Mary. (1988). *Translation Studies, an integrated approach*, John Benjamin Publishing Company, Amsterdam.

Trivedi, JK, et al. (2008). Neurocognitive dysfunction inpatients with obsessive compulsive disorder. *African Journal of Psychiatry*. 11, 204–209.

Walmsley, R. Mullineux . (1913). *Electricity in the service of man, a popular and practical treatise on the applications of electricity to modern life, illus. London, Cassell.*

Appendix: Texts for Translation

1. Knowledge, according to Aristotle, is of three main kinds-theoretical, practical, or productive, according as it is pursued for its own sake, as a means to conduct, or as a means to making something that is useful or beautiful. The supreme practical science- that to which all others are subordinate and ministerial- is politics, or, as we, with our fuller consciousness of man's membership of communities other than the state, might be more inclined to call it, social science. Of this science ethics is but a part, and accordingly Aristotle never speaks of 'ethics' or our discussions of character (Ross, 1995).

2. Pupils belong to many groups. All these groups exercise some degree of formative influences; but many of them are inevitably outside the school. The teacher who wishes to understand his pupils must therefore look beyond the class-room and try to study the other communities which also form part of the field in which the youngsters are developing (FLEMING, 1995).

3. Food for all is the crucial problem of the world to-day for several reasons. A hungry world is never likely to be a peaceful world. It is not saying too much to suggest that unrest throughout the world most frequently has its root cause in dissatisfaction with that part of the standard of living concerned with food. As Le Gros Clark has put it, a stable civilization will be built only on the foundations of the farm and the kitchen (Dudley Stam, 1953).

4. To find the beginnings of trial by jury, we must go back to the days of Henry the Second. The germ from which it grew was in existence before his time, but he was the first to establish it in such a way that it could grow into its modern form. In order to show you clearly what a great change Henry the second brought about, let me give you an idea of a trial as it was conducted for more than a hundred years after the Norman Conquest (Nelson and Sons, 1914).

5. From the very smallest of beginnings the science of electricity arose. The simple experiment of rubbing a piece of amber with wool and watching light bodies dance up to it had provided an amusement for centuries before its importance was suspected. The turning to the pole of a balanced piece of lodestone, though of more practical use than the experiment with the amber, was considered of great importance (Walmsley, Mullineux, 1913).