

Translating Political Cartoons: Revision through Crowdsourcing in Light of Game Theory¹

ترجمة الكارتون السياسي: المراجعة الجماعية في ضوء نظرية الألعاب

Assist. Prof Falih Saddam Al-Emara/ Department of Translation/ College of Arts/ University of Basra

The Researcher: Zainab Abdul Kareem Al-Sudani/ Department of Translation/ College of Arts/ University of Basra

أ.م. د. فالح صدام الأمانة/ كلية الآداب/ جامعة البصرة
الباحث: زينب عبد الكريم السوداني/ كلية الآداب/ جامعة البصرة

المستخلص:

لم يقتصر تأثير تطور التكنولوجيا الحديثة على ممارسة الترجمة وحسب بل على الدراسات الترجمة التي بدورها أثرت على التخطيط في الترجمة. ويدعو هذا بوضوح الى ضرورة تحديث نظريات الترجمة وتبني نظريات من ميادين المعرفة الأخرى متى ما كان هذا مجديا. تحاول هذه الورقة البحثية التعامل مع الترجمة على انها ميدان معرفي قابل للتداخل مع الفروع الأخرى بطبيعته وذلك بتبنيها نظرية الألعاب في علم الرياضيات. أن هذا البحث ليس نداء للتعمق بالتعامل مع النصوص من خلال الترجمة السيمانية للكاريكاتير السياسي فحسب وإنما ايضا للتعمق بالتعامل مع المترجمين من خلال إتاحة المجال لهم للعمل سويا والتعاون في منصة الكترونية واحدة تحت ظل قوانين النظرية المتبناة وممارسة عمليات ترجمة أخرى كالتفتيح والمراجعة. اثبتت النتائج تجريبيا أن النظرية تتوافق الى حد كبير بصفاتها وقواعدها مع عملية حشد المصادر وإن استخدام هذه العملية اعطى نتائج أفضل فيما يخص الترجمة او على الأقل فيما يخص النصوص المستخدمة في هذه التجربة.

الكلمات المفتاحية: الكارتون, حشد المصادر, مراجعة الترجمة, نظرية الألعاب

Abstract

The effect of new technologies has reached translation as any other field of knowledge and renovated the practice, research and theory in translation. This simply suggests the need to revisit translation theories and adopt theories from other disciplines where relevant. The current paper is an attempt to inter-subjectively adopt the mathematical game theory into translation. In addition, it is not only a call to probe into the understanding of texts by adopting semiotic texts represented in political cartoons but also to go deeper with translators by making them work together in a crowdsourcing context within an online platform governed by the rules of the adopted theory to practice other processes such as revision as a basic phase in translation. Empirically, the results proved that the adopted theory matches, to a good extent, the situation of Crowdsourcing, which gives better results concerning the translation process.

Keywords: Cartoons, crowdsourcing, game theory, and translation revision

Introduction

The present study tackles some questions about revision as a key issue in translation studies (TS), through studying revision during the translation process of political cartoons by an online group. The issue of revision has been searched in TS and is considered a relevant and effective phase in the translation process. In this context, there is almost an agreement among translators and translation trainers about the importance of revision in the translation process. Translation revision refers to the intervention made by the translator or reviser to amend the output of the translation process (European Committee for Standardisation 2006: 11).

Generally, technology penetrates in all fields of knowledge, which calls for investigating its effect and benefit on them; these effects can also be realized in translation. However, understanding worldwide events is

¹ The paper is based on an M.A. thesis written by the second author and supervised by the first author

increasing and, thus, the problem of understanding foreign languages arises. But, it is not a problem with the availability of online dictionaries and translations, it is about how to use these online tools for academic and professional purposes as well as in understanding the translation market and its requirements and the time needed for completing the tasks. Simultaneously, both translation and technology seek communication, and communication is simply viewed through social media as it is one of the common means of the interaction among people. It is common to see that people are posting and commenting on different social media posts and ask for opinions, agree on or reject a case. However, they notably show deviation from the language standards as when language users on the internet write words as they pronounce them and not as they must be written. One of the ways to handle problems of adopting such platforms is to make online groups which gather a number of, in this case, translators and ask them to take part in a project, each of whom will have a task of the general project to complete. These actions and processes can be termed *crowdsourcing*.

Thus, Crowdsourcing is a practical and professional activity that is adopted widely in many academic fields including translation as will be mentioned later. For this reason game theory is adopted in this study but from another dimension hopefully to discover translation from another angle with the application of crowdsourcing. Game theory can function as a framework for crowdsourcing. It states that participants have certain roles in a game and they have certain preferences that are influenced by information about the preferences of (specified) others (Ross, 2014).

Relatedly, Political cartoons exhibit a daily snapshot of political and social issues. Since cartoons tend to be made with a local touch even if they refer to international issues (McBride, 2006), it is important for translators to work with such challenging texts as they require deeper thinking and sophisticated translation processes in order to unveil the idea of the author first and be neutral in rendering them. The challenges rise from their local touch, hidden and unclear intentions on the one hand and the obligation that translators have to be precise and honest on the other hand. Another reason to adopt such texts for translation is that they present the deep side of inter-semiotic translation. This study sets the field for translators to practice conveying symbols that are rooted in local contexts and communicate the directness of political cartoons without deviating from (their) semantic meaning.

1. Crowdsourcing Emergence and Evolution in TS

Translation and technology have interrelated advantages for each other. In this respect, translators are the key players in the market; in turn technology can help them in different areas. Pym (2011) states that technology "extends the ways we interact with the world: our arms, our sight, our capacity to hear, touch, to move over distance". This necessitates a good knowledge of technology and its context, which means that translators have to respect the use or future use of these technologies and approach them in their larger context i.e. the target users, the work platform and the problems that may arise from their misuse and even their use in inappropriate context.

Translation technologies are designed, developed and continuously updated to serve as an assistant for the translators. These are used by translation agencies, freelancers, translation editors and translators who cooperate and work in team (Gambier et al, 2007:88). The latter extends the range of these technologies instead of delimiting them to translators or certain translation tools such as electronic dictionaries. Translation technologies bridge the gap between people of different cultures as well as of different orientations in the same culture which motivates permanent social connection and distribution of information. While one of the goals of

technologies is to make connections among people around the world, people seek to reach others who have the same or related interests which leads them to make groups. As a result, online groups or communities are flourishing and they are becoming a tool even for professionals.

Online communities are similar to a smart society¹ which is a term coined by a project funded by the European Union (EU). The smart society integrates techno-social aspects by enabling the use of advanced, social and mobile based technologies. The techno-sociability of a smart society is represented by two features, these are adaptation and use of hybrid computing systems which mix the abilities of humans and machines. Thus, smart societies or communities are based on "collectives" who are groups of people attracted to the same interests but having different knowledge background and skills. As a group having similar interests, members are a providing and consuming source of information at the same time. This is due to the different abilities of members, a number of whom provide certain feedbacks in certain steps of the process while others receive and get use of the feedback information (Miorandi et al, 2014: 4).

Generally, it is important to get benefit of technology. One can realize how fast and easy use they are. The availability of these platforms and the information they contain make it so advantageous. There is also the independency which means one can access online platforms from anywhere at any time as well as respond to the information or messages in the same way and with privacy. Pym (2011) refers to the richness of online translator networks whether professional or voluntary such as ProZ (ProZ.com), online databases (term banks), online machine translation (e.g. Google Translate) and the possibility and ease to join crowds, and shows that they provide translators with more resources than ever before. Moreover, online writing enables one to think, write and edit more slowly and carefully, and thus gives more stability in facing a community more than what happens in real life (King, 1994 as cited in Stommel, 2009).

A community depends on the perspective of its users i.e. the aim of joining a certain community. Following (Herring 2004 as in Stommel, 2009) to build the current case study on, there are six features that characterize a community:

1. Regular active participation.
2. Shared purpose, interest and culture.
3. Support members.
4. Criticism for each other's moves.
5. Capturing the uniqueness of the group as distinct from other groups.
6. Existence of a leadership and roles.

After knowing what a community is and what are its features, and while crowdsourcing is based on communities, it is time to define crowdsourcing. The term crowdsourcing first entered the network through an online magazine called WIRED in an article written by Jeff Howe in 2006. Crowdsourcing, as clarified by Howe, is outsourcing tasks by the task-companies or person/s to the task-operator/s and the process is done online among the group of interest instead of having professional person/s working alone to complete the task

² For more detailed definitions: *Towards An Integrated Crowdsourcing Definition*, a seminal paper by Estelles and Gonzalez (2012) in which it is considered as one of the most widely used sources of definitions. They list and explain forty existing definitions of crowdsourcing.

(WIRED, 2017). Crowdsourcing, in essence, is simple, but powerful; it enables everyone to connect, upload and download valuable information (Greengard, 2011: 20).

It is to be noted that definitions of crowdsourcing are different across different disciplines due to the emergence of different crowdsourcing types that their dynamic nature enabled them to be used widely even if they are "in their infancy" (Estelles and Gonzelez 2012 as cited in Jimenez-Crespo, 2017:12). Similarly, a fixed definition for the term "crowdsourcing translation" cannot be established since the discipline itself has not been commonly defined. According to Hermans (2013) the diverse nature of translation and the angels that can be approached to it led to failure of the efforts to give a fixed common definition of translation (Cited in Jimenez-Crespo 2017).

A crowdsourced project would typically go like this: an organization identifies its desired tasks and posts them online to a crowd who are specialists or interested in performing these tasks for the organization, for a fee or any other award. Brabham (2013) provides his explanation of the phenomenon of crowdsourcing as an organizational online activity that gets use of online community's collective intelligence to achieve its tasks. After completing the tasks, the crowd's individuals submit their work to the crowdsourcing platform, and the organization then assesses the quality of the work (Howe, 2006; Riedl et al. 2010 as cited in Zhao et al. (2012); Whitla, 2009). The process of joining groups has also been applied to the translation industry. Jimenez-Crespo (2013) defines crowdsourcing translation as a translation that requires an online team to process it on the condition of collaboration, and most importantly as a voluntary activity. Desjardins (2017) clarifies crowdsourcing in terms of his aforementioned definition of collaborative translation as to cope with the digital advancements and not merely be "in-house groups". The type of the team's activity depends on the team itself and there are many elements that characterize its nature such as the purpose and contents of the team's activity, the person, company or organization in charge, and the goal of the activity.

The important outcomes of research in crowdsourced translation studies cannot be denied though, they mostly seem to limit crowdsourcing to translating the platforms themselves or specific features of them as the frequently asked questions (FAQs), guidelines or app-interface. Recently, newsfeed translation is launched and performed by machine translation (MT). This feature is not new to translation studies research as it is considered a form of localization where new products, no matter what kind they are, are adopted to new linguistic markets. Focusing research on this angle hides other worth noticing activities such as self-translation where individuals translate photo-posts or hybrid texts {text with emoji} (Desjardins 2017: 22).

This leads to the pervasiveness of social media where the role of training is to prepare trainees for the marketplace that awaits them upon graduation, it necessitates in turn that translation training, especially at the undergraduate level, must incorporate technological change and innovation into the classroom.

2. Game theory of translation

In recent years, an increased interest in formal pragmatics is highly noticeable especially in the establishment of game theory as a new research methodology for the study of language use. Translation studies as an academic discipline is concerned with examining the theory and phenomena of translation but it has never been limited to it. It is an interdisciplinary field by nature. Changes, discoveries and technological developments provided new and updated bases to establish new research horizons and encourage the interdisciplinary fields to adopt theories from each other (Gheorghita, 2013).

As any kind of communication, translation involves decision-making processes in nearly all its steps. First, researchers have to put in mind that decision-making is connected with problem solving activity. Imagine oneself facing a problem; not as a translator but as a human being in general, s/he will directly deal with it by searching what to do (declarative knowledge/stored memory) and how to do it (strategic knowledge) in order to achieve a solution. On this basis, translation studies has adopted theories as to problem-solve language issues, such as adopting the mathematical game theory.

To begin with, the basic cores of a game should be clarified. According to Burgun (2013: 2) a game is a competition, whether physical or mental, set according to rules in agreement with the participants. He adds that competing is built on ambiguous decisions. Game theory is also defined as an analysis technique for situations where two or more individuals (or institutions) are involved and the outcome of the process depends on not only the particular action performed by that particular individual but also on the actions taken by the other/s. Games are interactive systems that have multiple qualities as a problem, competition quality of contests, and ambiguous decisions. A meaningful decision usually has an active effect in a game, and not all effects can be known, which makes the correct choice ambiguous.

Playing games is an art. The decisions one makes in a game are special to the game itself and are not applicable all the times. This element of ambiguity turns playing a game into an art (Burgun, 2013: 10). The theory of games was developed by the American mathematician Neumann and the German economist Morgenstern. It did not stand as a unique field until Neumann published a paper in 1928, which was followed by his book *Theory of Games and Economic Behavior* (1944). Originally, it was formulated for the domain of mathematics and nowadays it is adopted practically in different knowledge fields as economics, political science, psychology, logic, computer science and biology. (Ross, 2014).

Game theory is never limited to a simple mood of interaction; it is the mathematical study of rational social interaction. Since language is a social activity, then it is stipulating to try to use this theory in solving language problems. Game theory in translation has been applied by very few translation theoreticians, Jiri Levy being an outstanding scholar in this regard. In 1967, Levy attempted to build a model for the decision making process in translation. He suggested the minimax principle which considers translating a pragmatic activity where a translator seeks the possible solutions which ensure maximum results with minimum efforts. Generally, the two strategies of game theory have been adopted as will be discussed below.

2.1. Prisoner's Dilemma in Translation

The model of the prisoner's Dilemma is based on cooperation in principle. So, to apply it in translation, the translator as the promoter of communication between source and target languages and cultures, has to either cooperate and render the message of the original author in the original culture which is known in translation as foreignization, or otherwise, where s/he will adopt the dominant strategy. Accordingly, this strategy will force the translator either to plagiarize or to domesticate. As for the first case; plagiarism is a matter of betrayal. It is when the translator claims the original work as his own and denies the existence of the original author. The latter case; domestication presents the original author in a native way which means handling her/his message and thoughts natively in the target language (presenting them in the tongue of readers). One difference between the two procedures is that of benefit, the first one is for the translator's own benefit while the other is for the benefits of the target audience (Yushan and Shuqing, 2015: 3).

Even though cooperation is not easy due to reasons of misunderstanding such as one's love or mistrust for his native culture, it is important to create a bridge of communication or understanding and this is apparently the role of translation. The translator here is like a super cognitive power between the two suspects (the source and target language and culture) that enables them to trust each other.

2.2 Pareto Optimality in translation

Normally, it appears that the translator has to either foreignize or domesticate. In the foreignization strategy, the attention is focused towards the SL culture and it is intended to be shown to the target readers. However, the problem here is when a culture-specific portion of the text appears to be misunderstood by the target readers. The same thing can be said about the second strategy; domestication. This method will not make any possible misunderstandable issues for the target readers but it will reduce that chance of learning about the foreign culture (Yushan and Shuqing, 2015: 4).

In such a case, the Pareto optimality strategy becomes active. It suggests using both foreignization and domestication in the same text. It enables the readers to capture the meaning both literally and culturally without neglecting the original author and her/his culture. Readers will have the opportunity to learn something new in a comfortable way.

To go further, there are two modes for the process of decision making in games of multiplayer; simultaneous and sequential decision making. According to Carse, there are two kinds of games; finite and infinite. To relate translation with game theory, translation is a kind of infinite game where rules may change at any time responding to the situation. The infinite game includes any authentic interaction, no matter how simple or complicated it is, that changes rules and boundaries and where its purpose is to continue the game. The infinite player seeks self-sufficient strength, they are not behind power, as a result, there are no winners and losers but participants and this is the reason for describing such a game as dramatic (Carse, 1986). An interesting representation for the infinite game is that one cannot get something without sharing. Another pillar to be added is that there is no game (finite or infinite) unless the players freely choose to participate and play it. "No one can play who is forced to play". (ibid, p: 3)

Infinite game is internally defined to mean that players cannot say when their game ends. The time of an infinite game is not determined but is created within the play itself because an infinite game removes boundaries; it opens to players a new horizon of time. For this reason, it is impossible to say how long an infinite game has to or can be played. It seems important here to quote Carse: "Finite games can be played within an infinite game" (ibid, p:7). This can be considered as a fair and clear description for the translation process; during translating whether being simple or complex, or is done by a single translator or a group of translators, the *rules* and the *process* are going smoothly. The process turns infinite when external conditions change their course for example, a change in the deadline, audience, commitment if it is a group translation project etc. Apparently, translation is a finite process in the form of an infinite one. Any translation process has its aim, specific text, specific translator to perform the task and its deadline which means that it is a finite game but these all may change in case, for instance, an organization replaced the text by another one or the translator by another one or changing the deadline to be earlier which makes it look as an infinite game.

There are many cases and modes of games but the focus in this study will be on games of many players as it describes the situation of crowdsource translators in a realistic way. To begin with, multi-person games are of two types depending on the readiness of players to collate or not and on their interests; these are cooperative

and non-cooperative multiplayer's games. If players share exactly the same interests, they will all perform as one player and this coalition is called grand. Other cases include single coalition where different interests lead players to act independently and the gain for each of them will be less than when they enter into coalition, and finally there is the null coalition where there is no coalition at all (Kelly, 2003:149). Partially cooperative multi-person games encourage coalitions and sometimes consider them essential. There is a related feature with this kind of games which is known as the characteristic function. It is a rule that gives numerical values to coalitions. The more coalitions, the more value. By definition, null coalitions are given zero, single coalitions are given two while grand ones are given six values (Kelly, 2003:154).

Translation has always had an important role in bridging gaps of communication. It is reasonable to use game theory in translation as both of them call for logic and rules. Models of the original game theory give the translator the rules s/he can use to fulfil the task. Knowing the goal of the translation will help the translator to weigh the situation and use the suitable translation method. After all, translation is a kind of puzzle where its aim is not to win or lose but to solve.

3. Translation, Semiotics and Political cartoons

Cartoonists are always on probation, they are silenced, threatened or even killed (Gocek, 1998:1). The logical question is why? Apparently because of their work. Most of the cartoons motivate change, ask for freedom, call for resistance and threat unfair. Simply they unchain imagination and exhibit reality in a simplified way. Cartoons are fast-read messages and the idea contained in a political cartoon must not only be easily understood but even be already widely established before the cartoonist uses it.

The word caricature originates from the Italian words *carico* and *caricare*, which means to 'exaggerate'. The Swiss artist Rodolphe Topffer (1799–1846) first published cartoons as part of a comic strip in the 19th century. He tried to create a new method of story-telling so they were simple and thus the painter of cartoonist gave them little efforts. McBride distinguishes between caricature and cartoon where the first is a semblance that portrays a person physically and overdo some or all of its parts for certain aims (McBride, 2006). Cartoon on the other hand is a visual art drawn by hand or computer that may include things more than a person for itself. It is as if the caricature is a type of cartoon.

The embedded message and its visualization led political cartoons to become a very important social force. Cartoonists use cultural symbols that are commonly known to render their point. Their effect arises from the way they are presented; as a photo telling you what to do by setting the mood and scene.. Apparently the success of cartoons arises from the fact that people with minimal reading abilities can understand powerful ideas drawn in a humorous manner. Cartoon is an out of control art because of the intended manipulations and ambiguities that do not allow the cartoon to inflict one interpretation; it is flexible to be applied for example, on different characters holding the same attitude (Gocek, 1998: 3). These tricks; manipulation and ambiguity, are not used randomly. They create a scope of challenge to their viewer who becomes more interested in solving the puzzle on the one hand and protecting the cartoonist on the other hand by presenting serious criticism in a funny way. Joseph Conrad (1982) describes caricature as "*putting the face of a joke on the body of a truth*" (E.SHIKES, 1982).

As Navasky (2013) puts it, the effect of cartoons is due to different reasons, which he views as theories. The first theory suggests that it is the content of cartoons that moves people. One of the examples he provides (P: 27) is about the Yemeni cartoonist Saleh Ali who was arrested after publishing a cartoon in 1995 showing a

Yemeni man tied hands and locked mouth and the officer who arrested him saying, "*Democracy is what I say.*" The second theory draws on form; people get emotionally attracted because of the image itself. In cartoons, even the smallest pencil scratches or brush beats have their effect on the essence of the cartoon. Famous scholars like Ferdinand De Saussure confirm the power of the image especially when it has hints to real persons. Finally, the third theory mixes both motives where both form and content unite to produce an effect that people are attracted to. Therefore, it has to do with the brain, it resembles the cartoon in its logical content to the creative side of the two hemispheres of the brain (P: 53). The biographer Colin Seymour Ure believes that "*the dangerousness of a cartoon stems partly from the fact that its meaning depends largely on the reader.*"

Matheson (2005 cited in Mazid, 2008) says 'Language speaks us', it is certain that language in all its different types represents all different angles of our life. In fact, new branches of semiotics focus on the importance of non-verbal discourse; the hidden meaning expressed by pictures with their small pencil scribbles or brush beats. Likewise, Eco raises a point by asking, "What does it say to you?" when looking at a painting. Here the point he wanted to tackle in his book 'Saying Almost the Same Thing' are the different ways to say something. People use verbal language, body language and sign language to say things. A novel can say things in a way different from music or photo. This means that the result is one but the medium to get to it differs (Gambier et al., 2007: 16). Thus films, TV programs, articles and E-articles, cartoons, posters and so on are all types of the data that can be used to in semiotic analysis.

Traditionally translating has been defined as a linguistic activity. It means that the basic medium is words. Nevertheless, 'basic' does not mean the only medium. Back in 1959, Roman Jakobson introduced the notion of inter-semiotic translation. It took a more practical sense because of the changes brought to the profession by the internet. These variant mediums alert translators to be aware that they need to look beyond words to carry out their task. Thus, using cartoons which are super-texts in that they unite form and content, attack and defend at the same time and they are a photo to enjoy looking at and a kind of philosophical text is reasonable in this point. A cartoon is the place where different methods of figurative language are employed. Now it is important to show how revision is applied to cartoons within the context of translation.

4. Revision

The word 'revision' is rooted from the Latin *revisere* and the late Latin *revidere* to indicate seeing again either something or somebody or to see with new eyes. This view basically happens whenever a draft translation is getting ready for publication or use where the author of the translation goes through her/his work again and again as necessary before submitting it to the publisher or customer, hopefully having a new, fresh look on what s/he has done each time. However, a fully fresh view can be guaranteed by the reviser who is seeing the text for the first time, working on it from a superior point. A translated text needs to 'work' as a well-oiled and efficient machine in the publishing market (Scocchera, G., 2015: 170).

Generally, the concept of revision was reviewed in Nida researches who have shown awareness of the role of revision and its difficulties with particular reference to Bible translation:

"Revisions are in some ways a good deal more difficult than original translations, and hence often involve very complex procedures, usually because of vested interests (Nida, 1964, p. 245 cited in Scocchera, 2015: 172)".

However, the term 'revision' became evident with Munday's (2001) own version of the translation map based on Holmes seminal work. Where Holmes defined revision as 'translation criticism', Munday interprets it into

three forms: review, evaluation of translation, revision. In 2006, the European Committee for Standardization considers translation revision as a mandatory step in translating where the reviser is a person other than the translator (p. 11). The importance of revision is also stressed by Kunzli who studied the execution of professional translators (2007 cited in Scocchera, G., 2015: 172) in that the call for revision will be increased rather than decreased. Similarly, Martin (2007) and Mossop (2014) report similar findings.

Thus, revision is a bilingual process for checking the correct transfer of concepts or messages, terminology and its consistency etc. This goes by comparing the source text with its translation with the aim of producing a text that is faithful to the source regarding accuracy, consistency and completeness. It can be seen as a chance that the translator can exploit to interfere in order to improve the output before making it a final product. It may include additions, deletions or modulations that all certainly improve quality. The translator can also intervene to amend and improve the quality of her/his output by adding, deleting and/or modifying.

Following Campbell's categorization, (Al-Emara, 2014: 73) submits that the reviser's interventions can be graded into six groups:

- Strategy: this is the procedure performed basically on the word level and it includes alternatives (replacement), deletion, unpleasant start, insertion (addition), position switching (change in the places of words or phrases).
- Purpose: it is not easy to identify the purpose of the reviser as it is concerned with intentions but generally they can be listed under two main purposes: structural and semantic amendments. The former is related to words themselves concerning spelling mistakes for example, while the latter is related to semantic meaning equivalence and adequacy of the text.
- Level: it refers to the interventions on the structural level namely word, phrase, clause and sentence whether to add, delete, replace etc.
- Effectiveness or the degree of influence is concerned with the effect of the intervention that can be positive, negative or neutral on the output of the translator. the first is represented by changes for a better translation. The second is replacing a good structure by a wrong one. Finally, the neutral change does not have any advantage or disadvantage on the output.
- Frequency is the gauge of the number of interventions compared to the number of words.
- Economy refers to the economical behavior of a translator/reviser where some of them tend to be thrifter; they ignore details and information in the source text that they consider it unimportant.

However, the work of the reviser is still not widely recognized. The position of the reviser stands between that of the translator and that of the negotiating reader. Mossop (2001) describes revisers as "language therapists" who amend texts and improve them. Thus, the mission of a reviser is "going back over the text at least once for evaluation purposes, and making changes in the text to correct whatever problems were detected during the evaluation" (Roussey and Piolat 2008: 765). To do so, a reviser should possess certain qualification that could be profiled under her/his individual, cultural, and educational backgrounds, habits, self-evaluation, experiences and working conditions (Hansen 2013: 195).

An important question should be asked here, who can occupy the position of the reviser? Simply stated, the reviser may be a professional translator, a bilingual person, or a monolingual speaker (Chakhachiro 2005: 226 cited in Mangano 2016: 12). The difference between the three categories mentioned is the rate of quality they

can provide. Revision competence is not all about identifying mistakes but the ability to select the best option among many generated ones. Clearly noticed, the essence of revision is problem solving through decision making besides excellent skills in knowledge of the SL and TL and reading and interpretation. A reviser should have knowledge and trust in it besides curiosity and the readiness to negotiate when in doubt, thus knowledge of reliable sources.

Nevertheless, intervention of revisers should be ruled. One of the most important ethical rules is that revisers should only change those mistakes that really need changing. Ultimately, revisers are advised to be open-minded and accept criticism or rejection of their amendments. Mossop (2001: 160) stresses the significance of knowing ones' limits and professionals are not an exception.

Revision and translation in general include parties, thus it is a transaction that requires communication among those parties. For example, Brunette (2000) and Mossop (2001, 2014) strongly recommend the translator-reviser communication and collaboration and consider it as the only way for objectivity. In 2013, the Italian Association of Editorial Translators set "Guidelines for the Translation Production Process" (cf. from Scocchera, 2015: 170) emphasizing the importance of early contact between translator and reviser and the need to report the revised translation to the translator to defend her/his production. It also shows the key to a successful relationship of the translator-reviser and a successful product as well which is represented by mutual respect and lucidity among parties concerned. This confirms the importance of real-time translator-reviser interaction.

5. Methodology

The methodology of this study comprises the description of five elements. They are research techniques, participants, experiment, data and evaluation dimensions.

5.1. Research techniques

1. Netnography is a recently established research technique that allows researchers to conduct research online. Generally Netnography collects and analyzes stored data, i.e. a record of the communication held in the community which is unaffected by the actions of the researcher and co-created data build by the researcher in her/his interactions with members of the online community besides the field-notes data illustrating the researcher's reflections about the community. Furthermore, Netnography shifts from traditional observations to interpretation of computer-mediated conversations (Kozinets 2002: 64).

The reason for applying netnography in this study is that it opened access to reach people who are physically situated in far apart places. Netnography becomes a tool to collect the acquired data and it allows both the researcher and the participants to engage together in a fast and effective way (Kozinets, 2010: 44). Therefore, Netnography is an ideal methodology for this study

2. Five source-texts figures that have been translated by the crowdsource group to show how crowdsourcers are discussing their ideas.

Thus, a mixed-method approach has been applied of quantitative and qualitative data collection. The quantitative data makes it possible to provide general conclusions on conditions related to crowdsourced translation practices whereas the qualitative data shows diminutive examples of these conclusions. This mixed-methods approach is composed of a:

1. product-oriented (the outcome of the translation process)
2. process-oriented (translator competence, expertise, and cognition)
3. participant-oriented (how participants act in their online environment) (Saldanha & O'Brien, 2013: 50, 109 and 150).

5.2. Participants: The participants of the study are fifteen Bachelor Students of translation studying at the universities of Basra and Baghdad who are native speakers of Arabic. They are 8 females and 7 males, with an age range between 21 and 25 years.

5.3. Experiment: the experiment was conducted after acquiring the ethical approval of the Head of the Department of Translation, College of Arts, University of Basra (2017-2018) who gave permission and introduced the researcher and her project to the student participants. For the students in Baghdad University, they were contacted with through social media. As the project was voluntary, no forms were needed for the background of the students. Where many students volunteered, the choice of only 15 was based on the lecturers assessment and standard of the students. After declaring their approval, the researcher asked them to provide their usernames in Telegram Messenger in order to add them to the group called *Crowdsourcers*.

The first post in the group included identifying the roles of the group and the procedures followed in applying the project and translating the cartoons. After that, the real application of the research idea starts where the first figure was posted. Members were asked to express their views of the cartoon and form a text out of it. The profile picture of the group was designed by the researcher who used an app called *word cloud* to create it. The background of the picture indicates a puzzle that represent the game of crowdsourcing translation and the keywords used inside it refer to some features of crowdsourcing.

5.4. Data: This section presents the method of choosing the five samples of translation that has taken place among user-translators in the *Crowdsourcers* community on Telegram messenger the past three months. The members of the group can share thoughts about translation while working on the five figures. The idea is that sharing opinions on the content with fellow translators will provide a common ground to find solutions to translation problems they encounter.

The data that will be analyzed are derived from the participants' translations of five political cartoons; three of them were taken from the Independent magazine and the other three from the official website of Peter Schrank; the cartoonist. There is no specific criterion for choosing these cartoons in particular except their topics are of general interest and can represent any person/country holding the same situation. Examining the five figures of study will illustrate how translators solve translation tasks, express a text, adjust and revise it and if revising online will provide better results than the usual method of revising or not. This will be shown through a comparison held by a jury between the texts produced in the group and those produced by the in-service translators working separately. The group was created on 4 February 2017 and it is a proof of the usage of netnography for academic research in translation. While the privacy of users is a condition in applying netnography, no personal information about the user-translators, such as their real names were listed. This is useful for both the translators and the researcher where their actions and reactions can be discussed and analyzed freely.

An important point that should be clarified is the time of experiment. As this experiment was voluntary, no deadline was held for participants. They were free to share their ideas whenever they wanted. It is clear that the

goal of the group is basically to perform specialized translation tasks but relations of trust and help should not be neglected. Participation was based on mutual cooperation between the researcher and participants as they helped each other in varying subjects rather than the experiment as in exchanging advice about writing research and research ideas, scholarships, further information about higher studies etc.

5.5. Evaluating dimensions: One of the aims of this paper is to show similarity between preferences in game theory and revision in translation. While preferences in game theory are the convictions of a player about what to do in the next step of the game, revision in translation is also the convictions of the translator to intervene and make or preserve certain actions in her/his step in the crowdsourcing translation group.

The analysis will illustrate how the group express the cartoons in Arabic, translate it in English and revise it in both languages. The kind of revision that will be followed is real-time revision where it gives the opportunity to the translator to intervene and improve the output. Real-time revision includes all additions, deletions and modifications with the aim of improving the quality of the output. Patterns of intervention include but not limited to replacing a lexical item by another, deleting a preposition, changing the tense of the verb, shifting the place of certain items and so on (Al-Emara, 2014:210).

The flow of the game (group) will be like this: one participant will make the first move and suggest an idea or a text, another participant will either comment, change, decline, approve the idea of the first participant or suggests a new one and the same thing goes for other participants. With their different backgrounds and knowledge, participants have different preferences which are represented by the changes they make to the texts. As a group, a member's preferences cannot be unlimited and preferences of other members should be taken into concern.

Thus, Bacharach proposed a theory of team reasoning, which was completed by Sugden and Nathalie Gold after Bacharach's death. This theory constitutes a key part of the background context for a recent extension to game theory proposed by Wynn Stirling (2012); a theory of conditional games. Stirling aims at formalizing group preferences and make balanced preferences that are derived from the individual preferences and are not imposed on the group members. Basically, each individual should think not only in her/him self's preferences but also to the deeds placed on her/him to work for the success of the group as s/he is a member of it. According to Stirling, these balanced preferences are called equilibria

Typically, People may often postpone their final decision until they have a general view about the decisions and preferences of their team-mates. This leads to what Stirling defines as the conditional preference which is affected by others' ideas in the group. A second key point in Stirling's theory is that of concordance which he defines as the degree of agreement or disagreement to a set of conditional or unconditional preferences. Therefore, the theory is after gathering individual conditional preferences and making a harmony among them to be followed by team members without being imposed on them (Ross, 2017).

6. Data Analysis

The data that have been entered in the analysis constitutes of the participant's translations of five political cartoons earlier detailed in 5.4. For lack of space, it is appropriate to expose only one example of how each of the cartoons is analyzed in the study and the kind of data derived from analyses.



Figure (1): Peter Schrank (2015)

In the 28th of August, 2015 Schrank published a cartoon describing migrants who fled the war in Iraq and Syria among other countries. Quoting Schrank directly who sends his explanation in a private email message: "This is about large numbers of refugees arriving on Greek holiday islands during the summer of 2015. On one hand tourists from wealthy countries relax and enjoy themselves, on the other hand desperate people risk their lives to reach the EU."

Schrank describes it as an "unprecedented" movement in the history of Humanity (British Cartoon Archive, 2016). From another side, a jury of fine arts specialists view the cartoon as an illegal unprecedented immigration that pervaded Europe and threatened its prosperity and its constant peaceful social and religious state. They concluded that in light of the waves and flood drawn in the cartoon, which they see as a clear sign of danger to Europe and its citizens.

Another member of the jury adds and views the cartoon from the migrant's point of view where they see the waves as their only way to happiness in spite of their beliefs about it as the country of atheism. It is suggested that the cartoon is inspired by the raft of the Medusa portrait by the French painter Jean-Theodore between 1818-1819. The oil painting depicts what comes after the wreck of French naval where only 15 persons survived that and suffered starvation and practiced cannibalism.

Analyses:

The following snippets responses will show the participant's views concerning the cartoon and how they reach a final agreement defending or declining their preferences:

Participant 1:

الهجرة
بين فريق مؤيد لفكرة الهجرة..واخر معارض لها ، انقسم المواطنون العراقيون .
حيث يرى بعضهم انها الحل الافضل لمشاكل كثيرة في العراق كالبطالة وتدني
مستويات المعيشة وغيرها الكثير...وبفضل الهجرة الى بلدان غربية بأعتقادهم
توفر فرص عمل ومستويات معيشة افضل..ولكن الواقع غير ذلك...
اما الفريق الاخر فهو ضد فكرة الهجرة تحت شعار.(من خرج من داره قل مقداره)

Participant 4:

ينقسم الناس الى نوعين في هذه الدنيا من يصارع الحياة وي بذل جهده لاجل العيش فقط ومن ينعم بعيش رغيد بلا مقابل ! يكافح الناس للهجرة وللجوء للعالم الغربي وفي مخيلتهم انها ارض السعادة الابدية والخلود وفي الحقيقة هي كالبيت بلا ام بلا دقي ولا امان ولا طمأنينة
٢٧:٣٠ م

Participant 1:

شهد العراق في الآونة الاخيرة موجة كبيرة من هجرة الشباب والعوائل بحثا عن اماكن تتوفر فيها ظروف المعيشة الجيدة تاركين بلادهم ليرتحموا باحضان الاراضي الاوربية بحثا عن الامان الذي افتقدوه في بلادهم العراق بعد ان يتم الاتفاق مع سماسرة الهجرة بمبالغ كبيرة على الخروج الى دول أوروبا بإمكانات متواضعة وقوارب بحرية مطاطية غير مؤهلة لنقل المسافرين.

وعبر رحلة طويلة وشاقة وملينة بالتعب والمفاجئات في سواحل البحر الابيض المتوسط حيث ابتلعت البحار قسم منهم نتيجة القوارب الرديئة واما من يكتب له العيش والوصول للبلد الذي يرغب فيه طنا منه ان الرحلة انتهت وسيبدأ حلمه الذي يبحث عنه لكنه يتفاجئ بمرحلة اخرى للمعاناة التي هي التعامل القاسي للأجهزة الامنية لتلك الدول والمخيمات الغير مؤهلة للعيش فضلا عن بطئ الاجراءات .
٤١:٣٠ م

Participant 3:

لن يشعر بك من لم يشهد معاناتك ..
سواء هاجرت او هُجرت
فالوطن الذي لا يحمي فردا لن يحمي المجتمع
هكذا بدأت رحلات النازحين و المهجرين مجهولة النهاية .. حيث كما شاع حاليا ان البلدان الاوربية فقدت رونقها بسبب وجود الكثير من العرب !! هكذا ترى الطبقة البرجوازية الامر .. فهم وحدهم من يحق لهم الاستمتاع بالعالم ..

Participant 8:

الهجرة افادت
مجموعة من
الناس واخرين
لم يستغادو
منها بل كانت
سبب في
دمارهم اخرين
متفرجين
يدونون
ويلتقطون صور
لمثل هذه
الاحداث .. "

Participant 6:

العروض المغربية للواجهة الأوربية للوصول الى بر الامان من قبل العرب
٤٥:٣٠ م

Participant 6 modified the semiotic translation:

العروض المغربية للواجهة الأوربية للوصول إلى بر الأمان من قبل العرب والاستغلال المادي والعاطفي من قبل ضعاف النفوس من خلال المتاجرة بهم من دولة الى اخرى والجانب المادي دفع مبالغ طائلة للوصول الى الدولة المطلوبة
٥٣:٣٠ م

Participant 15:

حالات الهجرة الجماعية من بلاد الشرق سوف تلقي بهولها على الشعوب الغربية، لذلك ترى البعض منهم رحبوا بالمهاجرين بداية الامر " لكن اكتشفوا مؤخرا انها ستودي ببلدانهم الى عاقبة سوء

Participant 2:

تعددت اسباب الهجرة والنتيجة بقيت واحدة، على الرغم من كل ماقد تقدمه الدول الاجنبية من عوامل عيش الحياة برفاهية الا ان الهجرة برغم اسبابها لم تكن لمصلحة احد حسب ماقد يراه شخص، فهي السبب الاول في تدمير البلدان وعدم تقدمها من جميع النواحي الساسية والاقتصادية والاجتماعية وغيرها، ف الهجرة هي سبب لامتناس طاقات الفرد والانتفاع منه فقط وجعل موطنه الاصلي ضعيف من خلال اوهام الجميع بأنهم سوف يوفرون له كل ما يحتاجه والذي لم يستطع ان يمتلكه في وطنه .

For the Arabic version of the cartoon, the members of the group viewed the cartoon from different angles and some of them mixed what is in the painting with their background knowledge or beliefs about the issue of the cartoon. However, discussions had their way to suggest the text that represents objectively as much as possible the cartoon. The way of choosing a cartoon was not strict to choose a text of a participant only, but members could take extracts from here and there among the suggested texts. After agreeing on the final Arabic text translated semiotically which is the text of participant 2, members started to revise it. The following are their

Revisions:

Participant 2:

السياسية

Participant 2 revised a spelling mistake

ماقد يراه الشخص (ال تعريف تكون اضبط)

Participant 6:

Participant 6 added an article, which is considered as a spelling mistake

على الرغم من كل ماقدمته الدول الاجنبية

Participant 8:

Participant 8 changed the tense of the verb قدم from present to past tense

Participant 6:

دكتور احمد كال ماكو كلمة وحدة متابعة لثانية وثنيهم بيهن ال (هنا السبب

Participant 6 suggested deleting an article from one of the followed words that contain the " ال " as the participant followed the rule that it is better to avoid two respective words containing the article 'the'.

Word	Strategy	Purpose	Level	Effectiveness	Frequency
السياسية	replace	s	word	P	1
ال التعريف	add	s	word	P	1
قدم	tense	s	word	N	1
سبب اول	delete	sem	word	P	1

Table (1): Figure (2) Revision Intervention Analysis of the Arabic Text

S: structural Sem: semantic P:positive Neg: negative N:neutral

After suggesting edits, the researcher posted the final Arabic text to be translated where most of the members agreed on; the following as the final Arabic text:

تعددت اسباب الهجرة والنتيجة بقيت واحدة، على الرغم من كل ما قد تقدمه الدول الاجنبية من عوامل عيش الحياة برفاهية الا ان الهجرة برغم اسبابها لم تكن لمصلحة احد حسب ما قد يراه الشخص، فهي اول سبب في تدمير البلدان وعدم تقدمها من جميع النواحي السياسية والاقتصادية والاجتماعية وغيرها، ف الهجرة هي سبب لامتناس طاقات الفرد والانتفاع منه فقط وجعل موطنه الاصلي ضعيف من خلال اوهام الجميع بأنهم سوف يوفرون له كل ما يحتاجه والذي لم يستطع ان يمتلكه في وطنه. edited ٠٥:٠١ م ✓✓

The following snips are the suggested translations for the final Arabic text:

Participant 6:

There are many causes of migration but the result still one
although there are many thinks offers from foreign countries
through aluxary life for people but all that just for there intrests not
what person think
Migration is the first reasons for dstroy countries in all respects
Political;economic eeevelopment and social development

Migration: making the benefit just for this country and original
home be waek from infrastuture through trick people to give them
awonderful life and what they want.

Participant 1:

Immigration affected many aspects, including refugees with a
large number and the recieving countries . refugees think that these
countries will provide them a good life that they lost in their
countries because of their suffering immigration has many
disadvantages which affected on it's advantages through out it's
impact on polatics ,society &economic sides for both sides (the
refugees &countries)

Participant 4:

Immigration effect on many aspects , inclouds the huge refugess
figure and the countries that recepit them. Refugess thought they
will find what they lost in their countries in the Asylum countries . In
addiation the immigration either be positive to the country that
recepit or dislodge , or be negative .

Participant 2:

Immigration effected on many sides which include both immigrants "whom they were in huge numbers " and "the recipients countries ". Immigrants thought that these countries will make anything for living better life available for them Which majority couldn't have it because they were suffering in their homeland . Immigration has it's pros and cons but it's cons were despot through it's affect on political,social,economical sides and other of both parties.

Participant 13:

the migration effects on many sides of life including both the massive numbers of refugees and the country that receive them . the refugees think these countries will provide them with all ways of life which the majority missed , because of suffering they face it in their homelands , but their was a negative side may be exceed positive side for migration through their influence on the political, economic,social and other aspects for both parties

Participant 13 revised the translation:

the immigration effects on many sides of life including both the massive numbers of refugees and the country that receive them . the refugees think these countries will provide them with all life's necessary supplies which the majority missed , because of suffering they face in their homelands , but their was a negative side may be exceed positive side for immigration through their influence on the political, economic,social and other aspects for both parties

Giving an almost fair amount of time to produce translations, some participants gave their product. Through disscussions, the translation of participant 1 was chosen as the most appropriate translation but it needs to be revised. The following are the revision suggestions for the text:

Participant 4:

اول جملة يحتاجها on
و اداة تعريف the

Including "the" refugess

P4 added an adverb and an article

Participant 2:

Affect تؤثر
و effectes تتأثر ب

بمعنى الاصح affect

Participant 2 showed the difference between affect and effect and suggested to replace with affect. Then the same participant suggested the following revisions:

- 1-affected on
- 2-with a large
- 3-think
- 4-because of their suffering

In the first point, the verb is suggested to be replaced. In the second one, it is suggested to delete the phrase 'with a large'. The third point suggests changing the tense of the verb and unite it across the whole text. The last point suggests omitting the mentioned phrase but members of the group did not agree on this suggestion.

Participant 1:

Politics

P1 corrected a spelling mistake.

Participant 2:

Large number of refugees

Numbers

Participant 2 replaced the phrase 'refugees with a large number' with the phrase 'large number of refugees'. The same participant suggested to replace the phrase 'receiving countries' with:

Recipient countries

Participant 10:

But there is a negative sides preponderate on positive sides

Participant 10 suggested the above phrase to replace the phrase 'immigration has many disadvantages which affected on its advantages.

Participant 2 objected and corrected for Participant 10 by correcting the auxiliary verb "are" instead of "is" and deleting the article "a"

Participant 2:

social,economical political نكول بالآخر

Participant 2 changed the form of the words 'society', 'economy' and 'politics'.

Participant 4:

قبل but فازرة
,but there are

Participant 4 suggested to put a comma before but; a punctuation revising.

Participant 2 collected revision suggestions and applied them to the text:

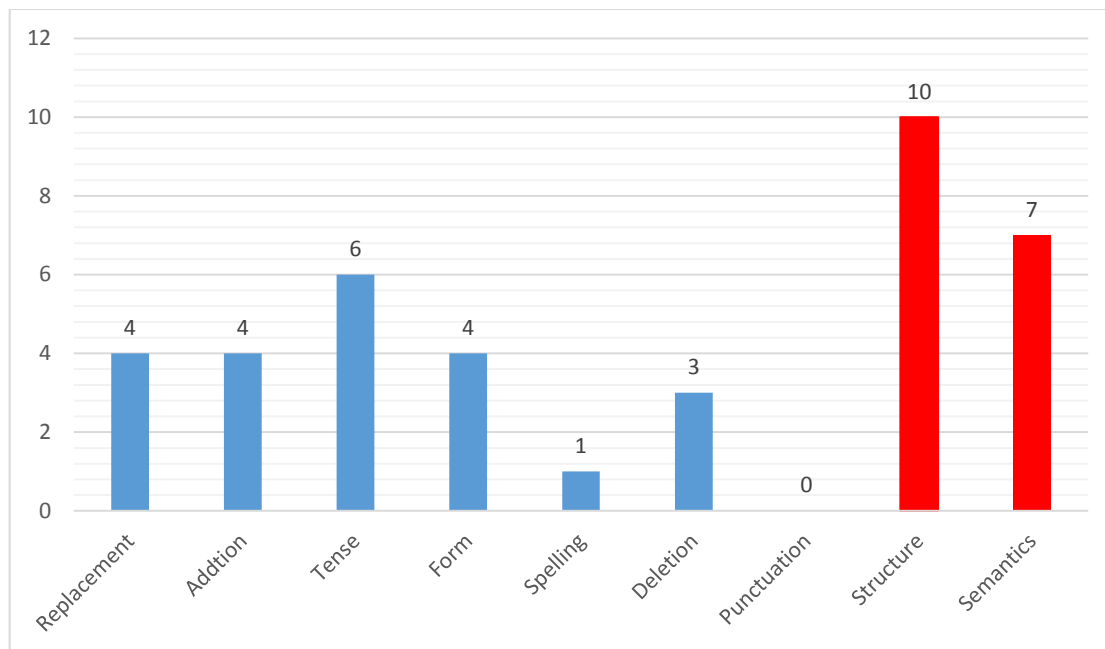
Immigration affects on many aspects including large numbers of refugees and the recipient countries. Refugees think that these countries will provide them a good life that they lost in their countries ,because of their

, suffering

But there are negative sides preponderate the positive ones through out it's impact on political ,social and economical aspects for both sides (the refugees & countries)

Word/Intervention	Strategy	Purpose	Level	Effectiveness	Frequency
On	add	s	word	P	1
The	add	s	word	P	1
Affect	Form	s	word	P	1
With a large	delete	sem	phrase	P	1
Think	tense	sem	word	P	1
Because of their suffering	delete	sem	phrase	Neg	1
Politics	spelling	s	word	P	1
Large numbers of refugees	replace	sem	phrase	P	1
Recipient countries	replace	sem	phrase	P	1
But there is a negative sides preponderate on the positive sides	replace	sem	phrase	N	1
Social	form	s	Word	P	1
economical	form	s	Word	P	1
Political	form	s	Word	P	1
Comma	add		Word	P	1

Table (2): Figure (2) Revision Intervention Analysis of the English Text



- 20 total interventions in both Arabic and English texts

Chart (1): Figure (2) Frequency of Strategies for Both the Arabic Text and its Translation

7. Conclusion

This paper has endeavored to study the process of revision of political cartoons in a crowdsourcing environment through employing the findings of game theory. It depends largely on current scholarly queries regarding the systematization of the process of crowdsourcing, translation revision, connecting revisers to translators to save time and money.

Simply, and as detailed throughout the paper, it is by gathering translators with revisers or making them exchange roles they can work together within a determined social media application. This process demanded the application of game theory to systematically analyze the products of multiple group members with various perspectives, styles, visions and decisions. These considerations all have to be coordinated among many members to cooperatively solve a current issue.

To simplify, there are certain problems in translating such as time, money and quality. People in charge of translation want the products as promptly as possible with the lowest payments and good quality. At the same time, professionals can do their best to meet the deadlines with a good quality but they will not accept the 'lowest payments'. Thus, crowdsourcing platforms provide a solution for both sides where they can meet the deadlines with an acceptable quality and most importantly with a lower price. Of course, one cannot neglect the effect of awards, which does not necessarily have to be money as they give a good push to the process.

Back to translation problems, in revision of a text by another person rather than the translator her/himself, the text is treated as a separate original text and not as a translation. Moreover, even if the reviser (not the translator her/himself) compared it to the SL, many important details cannot be rounded up. A common suggested solution to this problem is that the translator should revise her/his work after leaving it for a while. Apparently, this is time consuming and may be the translator will intentionally neglect some amendments of the reviser in order to show her/his mastery of language. As such, the term crowd-revision is suggested in this

paper. The term refers to the state where each member of the crowd is a translator and a reviser at the same time for her/his output as well as the output of other members. Thus, this process combines the advantages of both self-revision and other's translation

A final point about the particular choice of cartoons as the subject of translation in this paper is that Crowd-revision is not limited to this kind of texts and can be possibly applied to all text-types. The choice of cartoons is related to the importance of semiotics in their build up and for being a quasi-nihilistic deeply researched area in translation.

8. References:

- Alemara, F. (2014). *Translating into the First Language: Textual Competence, Disposition and Monitoring as Indicators of Translation Competence*. Ph. D. University of Leeds.
- Brabham, D. (2013). *Crowdsourcing*. Cambridge, MA [etc.]: MIT.
- Brunette, L. (2000). Towards a Terminology for Translation Quality Assessment. *The Translator*, [online] 6(2). Available at: <https://www.tandfonline.com/doi/abs/10.1080/13556509.2000.10799064> [Accessed 10 Jan. 2018].
- Burgun, K. (2013). *Game design theory*. Boca Raton: CRC Press.
- Carse, J. (1986). *Finite and Infinite Games*. New York: Free Press.
- Desjardins, R. (2017). *Translation and social media. In Theory, In Training And In Professional Practice*. Guildford: Palgrave Pivot.
- Desjardins, R. (2017). *Translation and social media. In Theory, In Training And In Professional Practice*. Guildford: Palgrave Pivot.
- E.SHIKES, R. (1982). The Face of a Joke on the Body of Truth. The New York Times. [online] Available at: <https://www.nytimes.com/1982/01/10/books/the-face-of-a-joke-on-the-body-of-a-truth.html> [Accessed 10 Jun. 2017].
- Evaluation on crowdsourcing research: Current status and future direction/Yuxiang Zhao&Qinghua Zhu/Published online: 11 April 2012/# Springer Science+Business Media, LLC 2012
- Gambier, Y., Shlesinger, M. and Stolze, R. (2007). *Doubts and directions in translation studies: Selected contributions from the EST Congress, Lisbon 2004*. Amsterdam: J. Benjamins Pub. Co.
- Gheorghita, E. (2013). *A Vision of Translation as Play and Game*. Ph. D. Moldova State University.
- Gheorghita, E. (2013). *A Vision of Translation as Play and Game*. Ph. D. Moldova State University.
- Göçek, F. (1998). *Political cartoons in the Middle East*. Princeton: Markus Wiener Publishers.
- Hansen, G (2013), Many Tracks Lead to the Goal: A Long-Term Study on individual Translation Styles. In C Way, S Vandepitte, R Meylaerts & M Bartłomiejczyk (eds), *Tracks and Treks in Translation Studies: Selected Papers from the EST Congress, Leuven 2010*. John Benjamins Publishing Company, Amsterdam, pp. 49-62, Leuven, Belgium, 23/09/2010 [Accessed 10 Dec. 2017].
- Jiménez-Crespo, M. (2013). *Translation and web localization*. Milton Park, Abingdon, Oxon: Routledge.
- Jiménez-Crespo, M. (2017). *Crowdsourcing and online collaborative translations*. Amsterdam: J. Benjamins.
- Kelly, A. (2003). *Decision Making Using Game Theory: An Introduction for Managers*. Cambridge, UK: Cambridge University Press.
- Künzli, A. (2015). Translation revision: A study of the performance of ten professional translators revising a legal text. In Y. Gambier, M. Shlesinger, & R. Stolze (Eds.), *Doubts and directions in translation studies: Selected contributions from the EST Congress, Lisbon 2004* (pp. 115–126). Amsterdam: John Benjamins.
- Mangano, C. (2016). *Revision and Self-Revision in Medical Translation*. Master. Università degli Studi di Padova.
- Martin, C. (2007). *The Dark Side of Translation Revision*. [online] Translationjournal.net. Available at: <http://translationjournal.net/journal/59editing.htm> [Accessed 9 Dec. 2017].
- Mazid, B.-E. (2008) 'Cowboy and misanthrope: a critical (discourse) analysis of Bush and bin Laden cartoons', *Discourse & Communication*, 2(4), pp. 433–457. doi: [10.1177/1750481308095939](https://doi.org/10.1177/1750481308095939).
- McBride, K. (2006). Cartoon vs. Caricature. [online] Poynter. Available at: <https://www.poynter.org/news/cartoon-vs-caricature> [Accessed 29 Oct. 2017].
- Miorandi, D. (2014). *Social collective intelligence*. Switzerland: Springer International Publication.
- Mossop, B. (2001). *Revising and editing for translators*. Manchester: St. Jerome.
- Mossop, B. (2014). *Revising and editing for translators*. 3rd Edition. Abingdon: Routledge.
- Munday, J. (2001). *Introducing translation studies: Theories and applications*. London: Routledge.
- Navasky, V. (2013). *The art of controversy*. New York: Alfred A. Knopf.
- Pym, A. (2011). *What technology does to translating*. - Free Online Library. [online] Thefreelibrary.com. Available at: <https://www.thefreelibrary.com/What+technology+does+to+translating.-a0274790862> [Accessed 24 Aug. 2017].

- Ross, D. (2014). *Game Theory*. [online] Plato.stanford.edu. Available at: <https://plato.stanford.edu/entries/game-theory/> [Accessed 10 Nov. 2017].
- Roussey, J. and Piolat, A. (2008). Critical reading effort during text revision. *European Journal of Cognitive Psychology*, [online] 20(4). Available at: <https://www.tandfonline.com/doi/abs/10.1080/09541440701696135> [Accessed 14 Jan. 2018].
- Scocchera, G. (2015) *Computer-based collaborative revision as a virtual lab of translation genetics*. [online] *Linguistica Antverpiensia*.net. Available at: <https://lans-tts.uantwerpen.be/index.php/LANS-TTS/article/view/347/334>. [Accessed 10 Dec. 2017].
- Stocchetti, M. and Kukkonen, K. (2011). *Images in Use: Towards the critical analysis of visual communication*. John Benjamins Publishing Company.
- Stommel, W. (2009). *Entering an Online Support Group on Eating Disorders: A Discourse Analysis (Utrecht studies in language and communication, 21)*. Rodopi.
- Whitla, P. (2009). *Crowdsourcing and its application in marketing activities*. Contemporary Management Research.
- WIRED, T. (2017). *The Rise of Crowdsourcing*. [online] WIRED. Available at: <https://www.wired.com/2006/06/crowds/>. [Accessed 21 Oct. 2017].
- Yushan, Z. and Shuqing, Y. (2015). Translation Strategies of Culture Factors From the Perspective of Game Theory. *Canadian Social Science*, [online] 11. Available at: <http://www.cscanada.net/index.php/css/article/viewFile/7689/8234> [Accessed 17 Jan. 2018].