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Universidade de Aveiro Departamento de Línguas e Culturas
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Dissertação apresentada à Universidade de Aveiro para cumprimento dos requisitos necessários à obtenção do grau de Mestre em Tradução Especializada, realizada sob a orientação científica do Doutora Maria Teresa Costa Gomes Roberto, Professora Auxiliar do Departamento de Línguas e Culturas da Universidade de Aveiro.

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palavras-chave   Internet, tradução, tradução assistida por computador, localização, comunicação técnica, motor de busca, fórum, tradução audiovisual

resumo   O objectivo principal deste trabalho é elaborar um guia para orientar as pessoas que se empenham em fazer uma tradução, quer ela seja de um texto oral ou escrito. Hoje em dia, face à grande quantidade de fontes de apoio à tradução disponíveis online, traduzir um texto torna-se muito mais fácil – mas é essencial saber como tirar o maior partido dessas fontes. Pela minha experiência como tradutor, sei o quanto a descoberta de um glossário, ou de um dicionário pode significar a diferença na qualidade final do produto de tradução e no tempo dispendido, especialmente quando se trata de uma tradução técnica, pois estes e outros instrumentos podem auxiliar e optimizar todo o trabalho de tradução.

keywords

Internet, translation, machine translation, localization, technical communication, search engine, dictionary, forum, translator, audiovisual translation

abstract

The main objective of this dissertation is to develop a guide for people who set about to carry out a translation. Nowadays, given the multitude of resources available online, translating a text has become much easier – one simply must know how to make the best of these resources. From my experience as a translator, I am aware of how valuable the discovery of a high-quality dictionary, glossary, or other resources can be both in attaining high quality translations and in expediting the processes, especially when it comes to performing a technical translation. I hope my work will help future and present translators in their professional lives.

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1.   Introduction

The continually evolving Internet provides conditions nowadays for communication across borders and across cultures. Organizations are using the Internet as a base for global electronic commerce (e-commerce). Individuals can become members of topic-orientated forum groups, join bulletin boards, share their experience by creating their own blogs and interact with other Internet-users via chats, and thus communicate with people around the globe. Virtually anyone in the world with access to the Internet can participate in and contribute to an ever growing virtual community. In this way, the Internet is speeding up the process of globalization. One thing stands on the way to full globalization – the language barrier. If an individual, an organization or a business wants to reach speakers of other languages, they need to have their message translated into the target group's language. And this is where translators and interpreters step in.

Translation and interpretation – the traditional ways of language mediation as we know it – are now being faced with great challenges which originate from the advent of the Internet and from constantly advancing technology. The main difference lies in the change from the analog, paper-based approach to the digital reality which allows a large amount of flexibility in electronic processing. This flexibility and a wide range of new technologies and devices, especially the Internet, has affected the lives of translators in the way they send and receive their work, the tools they use, and the type and amount of work they receive.

Technology affects translation in various ways: it provides new tools to aid the translation process, but it also contributes to the emergence of a new literacy. This new literacy involves a shift in ways of communicating. New tools are, first of all, tools that make translation more efficient and respond to the needs that emerge from new technologies. These tools also refer to tools needed to support the new forms of communication, especially those brought about by information and telecommunication technology.

All of the above implies that translators nowadays are forced to acquire a set of whole new skills and knowledge – the so-called 'digital literacy' – to meet the demands of today's world of translation. The professions of both translators and interpreters have been, and are

being, substantially affected by the changes the new technologies have lately caused. However, as the impact on the latter has been reportedly lesser, and due to a limited extent of this work, I will not address the issue of how interpreters are or should be adapting to these changes. In the following chapters, I will rather examine what new skills are required for a present translator to become an up-to-date successful expert in the field of translation, given the shift the Internet and modern technology have brought about from primarily "print-based and physical transportation-based communication environment to the digital world." (O'Hagan and Ashworth, 2002). Topics such as localization, machine translation, on-line resources used by translators, translation tools and terminology will be tackled in an attempt to establish how the Internet in particular has affected translators' way of working and how translators can use the resources the Internet has to offer in order to obtain better quality results.

Readings in Translation Trends

The advent of the Internet, and the fast, ever-growing progress of new technologies, which have changed the way the information is now stored, processed and sent, significantly influences today's translator's work and requires practically constant up-dating. The emergence of these new technologies has affected the technical aspect of translation assignments as well as the way translators communicate with their colleagues and with their clients, regardless of whether the party commissioning the translation is a multinational company or a small printing house. As a natural consequence of this new professional reality, the target market for translators is undergoing tremendous changes.

This chapter will address the new market demands which have recently emerged with regard to translation services, focusing on the necessity of a proper training, indispensable, in my opinion, to meet the new demands.

On-line Resources for the New Translator

This chapter will examine the numerous resources available on-line which can be used to the translator's advantage. Today, in a world where the process of globalization is in force and when productivity and quick information retrieval are irreplaceable values of great importance, anyone who wishes to excel in their field must at least be familiarized with the wide range of Internet-based tools which optimize the work they are performing, be it translation or any other activity/profession. Those who obstinately keep on ignoring the possibilities the new modern technology offers are very likely to find themselves left behind their competition, which may finally lead to a decrease in job assignments and therefore lower remuneration. In this chapter, I will strive to familiarize the reader with the main features and general advantages and disadvantages of these resources, and I will provide the reader with lists of specific on-line tools which translators use to enhance their productivity.

Machine Translation

Machine translation (MT) systems are now omnipresent. This omnipresence is a consequence of both the increased (and ever-growing) need for translation in the present globalized environment, and the significant advancements in computer technology which allow computers to process more and more information in less and less time. Under certain circumstances, MT tools are powerful, irreplaceable instruments . They provide low-quality translations in situations where a " dreadful" translation is better than no translation at all, or where a draft translation of a voluminous document produced in a question of seconds is of more use than a "good" one delivered in a month's time. This section will look into machine translations systems as tools that translators use in their work.

Machine Translation – Historical Overview

This section will draw a general outline of how research in machine translation systems evolved over the last half a century. By drafting a historical overview of MT, I hope to observe patterns in tendencies which, in turn, will hopefully reveal existing patterns in tendencies of MT research. Providing a brief description will, in my opinion, help to predict, roughly, where research in this field is going to land in 10 years from now.

Machine Translation – Why MT Matters

In my view, it is crucial to help people generally and language service providers in particular to realize how fundamentally crucial machine translations are for the translation industry, and for a more universal public. I believe that, however limited developments in MT research are at present time, MT systems still increase translators' productivity significantly (and perhaps will even more) and therefore MT research is as important as translation itself. Moreover, MT systems contribute largely to the globalization process and therefore to general cross-border, intercultural communication and understanding. This section will answer the question "Why MT tools matter?".

Machine Translation – Misconceptions about Machine Translation

This section addresses several of the most common misconceptions people nowadays have about machine translation systems. It is important to explore them and counterargument them with what correct ideas because MT systems are only as productive as users' capacity to and awareness about using them is. As Neil Coffey (2009) puts it:

> "Researchers and developers of computer translation systems have always
> been aware that one of the biggest dangers is public misperception of their
> purpose and limitations. Somers (2003), observing the use of MT on the

web and in chat rooms, comments that: "This increased visibility of MT has had a number of side effects. [...] There is certainly a need to educate the general public about the low quality of raw MT, and, importantly, why the quality is so low." Observing MT in use in 2009, there's sadly little evidence that users' awareness of these issues has improved." (Coffey, 2009: 13)

In other words, users need to have a basic knowledge about MT systems' functionality to get the best out of them. Users have to get acquainted with the limitations and the purpose of the concept of machine translation tools in order to fully use them to their advantage.

Machine-Assisted Translation and Non Machine-Assisted Translation

However surprising it may sound, MTs are vastly used by translators, not only to get a general idea of a document, but to actually perform translation assignments. This section will address the following questions: Is the outcome quality of a machine translation-assisted translation better than if the work were carried out entirely by a human without any help from machines? Is the average quality of today's translation services better than 50 years ago when translators could only rely on their own knowledge and paper dictionaries/glossaries? Are clients more satisfied? Do translators find it easier and more effective to back up their translations with MT systems? And what type of texts are MT systems best suited for?

Machine Translation – Will Machine Translations ever replace Humans?

Ever since research on artificial intelligence, and in particular on machine translation systems, has started, many wonder if machines are going to replace humans. This also applies to the translation industry. Many translators have voiced their concerns about the possibility of being superseded by more productive and cost-effective MT systems. My position on this matter is that such perspective is, at least at present and in the foreseeable

future, highly improbable. This section elaborates on the reasons why human translators' position is, for the time being, not threatened by machines, further exploring the limitations of MT systems.

Machine Translation – On-line MT Services and MT Engines

This last section devoted to the subject of machine translation systems lists MT engines which are available on-line. Most of them can be accessed free of charge. The list is confined to those MT engines that I have personally experienced using, as well as those which are universal as far as language pairs are concerned. However, the main focus here is on the language pairs I usually translate between, which includes: English, French, German, Polish, Portuguese and Spanish.

Web Search Engines

Search engines are as naturally listed by translators amongst the resources they employ in the translation process as is red amongst the first colors that come to most people's minds. Search engines are for today's translator a must, a valued means to obtaining high-quality results. However, no matter how popular they are and how heavily translators draw on them, I believe there are still many hidden possibilities many of us ignore. These possibilities, if made the best of, are likely to speed up even more the translation work and will surely improve the overall quality of it. This section will look at the most functional features of search engines and will strive to provide some practical pieces of advice on how to make a good use of these features in order to boost one's translation work.

On-line Dictionaries

It is evident that dictionary consultation constitutes an important stage in the process of translation. Dictionaries provide translators with valuable information and play a vital role in translator training. In this section, I will address a number of issues concerning using

dictionaries as a tool for translation; my main focus will be the skills necessary to efficiently employ dictionaries in translation work. I will also provide a short list of dictionaries available on-line which I consult on a more or less regular basis.

Online Forums

Forums are on-line discussion boards which bring different interest-orientated groups of people together and help solve problems through mutual communication and exchange of information. Translators nowadays widely use this type of Internet reference tool to enhance their translations. This section will look at how forums can be useful to language professionals and provides a short list of Internet forums available on-line.

Specialization for the New Translator

This section will look at a chosen number of activities translators nowadays can specialize in.

Localization

Every time a software or a website displays an information carrier in any of it various forms, be it a single word, a picture or a whole phrase of command, on the screen of our computer, it means that some work has been done to 'localize' the product in order to make it more widely-available and to make it sell better. this may also mean that there is some potential work to be done – by a translator or many of them. This chapter provides a brief general overview of what is described as 'localization' or 'language engineering' as well as addresses the following question: How important is localization for present and future translators?

This chapter is not intended as a guide nor does it strive to be exhaustive – but localization plays quite an important role in today's translation industry and its importance is growing,

thus its relevance to this work. For those who wish to learn basics about localization, I recommend they get familiarized with a very clear and detailed work on the subject – 'A Practical Guide to Localization' by Bert Esselink (1998), or any of the revised versions that followed.

Localization – General Overview

This section aims to elaborate on the subject of localization, giving its brief presentation and a limited description of how it is inscribed in the process of globalization.

Localization – Localization and Translation

Localization is often mistaken for a mere 'high-tech translation', but this view does not capture its importance, its complexity or what it encompasses. In addition to translation, the localization process might include adapting graphics and local currencies; adjusting the forms for dates, addresses and phone numbers; it takes into account such non-verbal elements of a message as the choices of colors, and many other details, including the physical structure of a product. This section focuses primarily on the differences between translation and localization, and therefore, to some point, addresses the matter of to what extent localization influences the profession of translators.

Technical Communication

This chapter elaborates on the very specific and immensely popular area of translation, amongst translators – the one that deals with the creation of technical texts. As commerce and international business activities as well as wider and more frequent information distribution in many languages take place along with the process of globalization, there is a huge and ever-growing demand for technical communicators. This chapter provides a

general overview of this specific area of the translation industry, with particular focus on the translators' perspective on the subject.

Audiovisual Translation

Audiovisual translations is a vast domain and may comprise anything from subtitling and dubbing to voice-over, video games with interactive software, and even online teaching. All of these have already been here a while. In this chapter, I will shortly outline the unexplored areas within audiovisual translation – activities which are only now beginning to emerge, because being able to anticipate changes in our professional field means better chances for success.

Enhancing the Work of the Translator (Total Quality in Translation)

This chapter elaborates on the various translator's reference tools that have been in use for some time now in the translation industry, but which have gained new functionalities and features thanks to the recent developments in the communication and technology sectors. They have sped up largely by the process of globalization. It provides an overview of chosen tools and activities applied by translators to ensure high quality results. It also endeavors, in some cases, to point to potential breakthroughs and to anticipate certain tendencies which might occur in the translation industry in the nearest future.

Exclusion criteria

This work is by no means exhaustive – the ways in which translation service providers benefit from the Internet are countless and compiling all of them under one title would certainly be no easy endeavor.

Therefore, firstly, my dissertation, while includes many different reference tools available on the Internet, will leave out any kind of tools translators use which are not Internet-based, which are not related to the Internet, and which are not Internet-dependent. Thus, I

will exclude from my work tools like translation memory software or any software tools used in subtitling.

Secondly, my work will not focus on software and devices in the mobile technology. Simply because mobiles are just carriers, means of accessing various Internet-based software and other kinds of software. For instance, when discussing the importance of e-mails in translators' lives, one could consider it pertinent to mention something about mobile phones and how easy the access to email boxes can be from a mobile. Mobiles bring together much of the modern technology, they encompass various types of software, and tools (there are obviously mobiles with speech recognition systems and automatic translation tools), but just as I will not address the capacities of a computer as such, I will not speak about mobiles either – they are just various forms of accessing the various resources there are on the Internet.

On the other hand, this work will include subject matters that might seem unrelated or/and independent from the Internet, like revision. This is due to the fact that some of this work's main goals are to try to describe how translators' work has changed over the last years, and to predict the direction, towards which the translation industry is heading. As a consequence of these objectives, the main focus will not only be the Internet-related and Internet-based tools, but also any kind of activity that is likely to become primordial for translators in the future.

This work has been written with two main groups of readers in mind. The first group includes practicing translators or students attending translation courses or similar training, who might have already gained some (or significant) experience in using the Internet resources in their work, but who, at the same time, wish to acquire more knowledge as to specific websites that can be consulted on-line. I believe that the most diversified Internet-based translation-aiding references such as forums, dictionaries, and open-source machine translation systems may become of great use to them, regardless of the language pair(s) the reader works with. My dissertation will not focus on any one language in particular as its aim is to be as universal in its approach as possible, in order to be useful to a wider public. But, at the same time, one of the foundations of this work is my own personal experience

which I have gained gradually, while working with the language pairs I am familiar with and therefore I feel more entitled to recommend the reference sources I have used.

Regular day-to-day Internet-users who rely on the Internet, especially on on-line machine translation tools and search engines, dealing with their work or just enjoying surfing in the Web comprise the second category. I would be most satisfied if my work helped such people explore further the options and capabilities that machine translation tools and search engines might be hiding from an inadvertent observer.

2. Readings in Translation Trends

2.1 Translation – New Demands for a New Market

Emergence of a new discipline, or occurrence of significant changes in an existing one, usually goes together with respective training and is usually reflected in the curricula of educational institutions. With new market demands come new needs for receiving adequate training to meet them. The expectations that today's translation market presents require teaching centers and teachers themselves to re-consider existing translator training programs, because they may simply be inadequate and obsolete, and many of them are. In order for the change to take place, two conditions must be met. Firstly, those who are responsible for preparing new generations of translators have to become aware of the need for change. Generally speaking, such awareness has already been repeatedly manifested in numerous seminars, conferences and publications, which points to the fact that (European) teaching institutions are already well aware of the need for a new approach in training translators. Another issue is the necessary expenses which go in pair with adapting schools to new working conditions. The lack of needed funds many institutions in Europe tackle nowadays rules out the possibility to fully adapt to the new environment, which, in turn, hinders introduction of new training programs, especially in the case of public institutions. The technological devices and computer software that translators use in their work in the present days are costly already for an individual user, not to mention cost increment in providing a whole university with such equipment.

The end of the last century and the beginning of this one was marked with rapid developments in information and communication technology which revolutionized the profession of translator and the situation of the translation market. This new market is no longer expecting a translator to be proficient just in the language pairs they work in (and to be preferably more competent in the target language) but also in the technology available today, and to be able to respond quicker and to process more data in less time, exhibiting both flexibility and capacity to work under stress (tight deadlines). Being a translator no

longer limits itself to having a text transposed into another language and leaving all the other technical and visual aspects to other professionals. More than that, translators nowadays are expected to resemble philosophers from the Age of Enlightenment – combining the knowledge from various disciplines with open-minded flexibility and topping it up with a great deal of willingness to broaden their horizons in order to come up with a solution to any problems they are faced with, besides the necessary soft-skills to contact, engage and sustain clients. Let us take a look at how the market demands have changed over the course of time.

As one of the leading figures in translation studies Anthony Pym puts it (Pym, 1998), there are a number of new characteristics the translation market (and practically every other market as well) has gained recently that should be mentioned when considering how these new characteristics influenced the work of translation.

An international market

In the present time, the reality we live in is drastically different from what was taking place even ten or twenty years ago. What used to be local, is now global. The boundaries, both political and cultural, have been blurred and it has become a necessity to cross borders and go beyond one's country to reach international audiences in order to have success, whether it be a novel or a user's manual of some product. Local small businesses which do not advertise their products to a broader spectrum of potential clients and which do not take part in international trade are being dislodged by their more successful, further reaching competitors. One thing has not changed, and will, in my opinion, never undergo any greater transformation – that is the need for language as a way to communicate. As many studies have shown repeatedly, most people attribute their identity to their mother tongue. Most Spanish, when asked why they identify themselves as Spanish, answered, quite simply, that the reason is that they SPEAK Spanish, which suggests a strong bond existing between their identity and the language they speak (Pym, 2008). As a consequence, addressing the target group of potential clients in their own language, taking into account the cultural background, helps companies build a bond which is a lot stronger with the

clients and thus increasing the probability that the product will sell better. A logical and obvious conclusion is that in order to gain more clients, international companies rely on translators' work to render their products visible and known in the language of the target groups of potential clients.

The workload and time flexibility

The amount of documents which have to be translated into foreign languages to reach the international groups of potential clients has increased significantly with the progress of the globalization process. A relevant and simple example of this is the European Union institutions which has given the status of an official language to over 20 different European languages. This, in practical terms, means a tremendous increase in the demand for translators, as all regulations, rules and guidelines need to be standardized and normalized for each member country of the European Union. As communication becomes more global, companies from all sectors and countries from across the globe must seek translators' assistance to deliver information to a wider public. One must also take into account the speed of the flow and the dissemination of information as a result of the developments in technology. Using the example of the European Union and its numerous institutions, let us stress how important it is that the new laws, which should be simultaneously applied in all the member countries, be made known to millions of people within as little time as possible. Deadlines are becoming tighter and tighter precisely due to the speed and ease of distribution of practically any kind of information. Time counts now more than ever, and it can only become even a more important factor in carrying out assignments in the future.

A decentralized market

As a result of the occurrence of new technologies, chiefly the Internet, and the increasingly blurred economic borders, translation services commissioned by institutions, companies, or individual clients are no longer limited by geographical barriers. Physical distance can no longer be an obstacle to a successfully carried out translation assignment. The market is now decentralized, for we are presently coping with national and international markets (Pym 1998). On the one hand, it can be used as an advantage, as it enables translators to

gain clients from anywhere in the world. But on the other hand - the coin has two sides to it - the decentralized market has also brought a larger and more varied range of competing translators.

A specialized market

Along with the market decentralization, recent developments in technology also have a critical impact on the types of texts translators have to work with. Although the demand for technical translations in the world has not decreased, the advances in telecommunications and software also contribute to an accumulating volume of translation. A quick glance at the actual translation market shows that material related to software and websites (including, mainly localization) constitutes tasks carried out by translators. For example, a process of localization comprises a lot more than simply translating from one language into another – if we take a look at an average, regular website, we can see that apart from written text, there is a number of other important elements which convey some kind of message. Images, videos, the choice of colors and even geometrical figures may, and often do, carry some meaning. If such a website is to appeal to audiences in other countries, it is necessary to also take into account those details. By omitting even a seemingly trivial nuance, translators may offend the target reader unwillingly. Colors are great example of how differently such tiny details can be received by different cultures. A good translator therefore, must always keep in mind the cultural background of the target public, now more than ever. It is important that local audiences read the final outcome as fluently as if it were written by native authors in the target language, since readers will react negatively to websites which contain *translationese* or, simply, poor translations (Corte, 2002). Such localization generates novel ways of working, new special skills. This, in turn, leads to creation of multitasking companies which bring together translators and specialists in other disciplines (web design, computer engineers, etc.), offering comprehensive services to meet the new market demands.

A dynamic market

As today's society is constantly changing, new technologies and sectors still emerge. It is rather hard to predict with any degree of certainty which sectors will expand more rapidly and what new technologies will emerge. Even medium-term predictions may be risky, as one can already hardly keep track of all the new technologies that are being developed currently. However, as past experience shows, good chances are that there will always be demand for translators' services in areas closely related to the latest technology, such as mobile phones, or to technical innovations, like the car industry. It seems that the translators' inevitable fate will be to keep training and gaining knowledge in new fields, often all by themselves, staying up-to-date in terms of new advances.

A virtual market

The Internet and the information and communication technology developments have also altered the milieu in which translators work and how they communicate with their clients. The physical context to which translators had been confined does no longer apply. It is much easier and, what seems to be of greater importance, much faster to communicate with both the client and the end user. Translators can practically at any moment contact the client in case they have doubts or simply to request extension of the deadline. This, in fact, leads to a situation where most major translation services nowadays offer their services via the Internet. For many freelance translators, this is their main and sometimes only means of attracting new clients. Some translation agencies choose to exist only in virtual reality, having no need for physical contact with their clients or for a headquarters from which to coordinate their translation teams. Many business relationships are being established via the Internet, with the help of the translator's or agency's portal or by means of the many directories that list freelancers, free of charge. Such contacts allow undisturbed, cost-effective and efficient communication.

A demanding market

The technology tools and applications that have been made available to translators shorten the time translators need to spend on an assignment and make it easier for them to cope with enormous workloads. But on the other hand, these resources have also generated new issues. The translation market is giving impossibly short deadlines and delivery dates, and the daily volume of workload for translators is growing incredibly fast. The majority of translators have no choice but to accept the terms offered by the client, or else the client will turn to the competition, probably willing to take up the assignment along with the accompanying conditions, unless the deadline is critically tight – in that case translators can risk negotiating. Only few with experience-backed reputation can afford to decline a proposal they do not like. And most of the clients are aware of the existing competitiveness and therefore are becoming more and more strict about the outcome quality of translations. There are also clients who have their own, often deviated, idea of 'quality' which they impose on translators, limiting their freedom. Nowadays, computer tools applied to translation and text processing allow clients to develop their own glossaries, terminology databases, and translation memories. Less and less scientists need translators to translate their scientific articles into English because they themselves are, more or less, proficient in English, as the only way for them to stay updated is to keep track of publications in their field of expertise, usually spread out worldwide in English. Wider and easier access to glossaries and online resources lessen the importance of translators and the fees the clients are ready to agree upon are also affected by what they conceive as a profession that can be carried out with no collateral expenses like cost of premises or administrative costs. All of this presents itself as a sort of a vicious circle – although translators have to constantly develop new skills and learn new things, non-translators are 'chasing' them by becoming more and more efficient in using online resources to have at least a part of the translation work done before sending it to the translator.

2.2 Translator training

The latest technology has facilitated translators' work, but, in order to meet market needs, information and communication technology must comprise students' training. The present market, becoming more and more demanding, expects future translators to possess a broad knowledge of the subject matter of the text, to apply a large number of computer tools proficiently, and to have all the training and skills necessary to tackle all of the obstacles that may appear in the course of the translation process. Since translation requires a multidisciplinary background knowledge, it is no longer enough for training curricula for translators to cover only command of both target and source language – just as important becomes teaching students computer and technology literacy and skills that belong to various disciplines, such as documentation, terminology, as well as basic background knowledge to be able to understand technical texts, or as a bases for future researching on and deepening of a variety of topics. Students must be taught these skills in order for them to become worthy and confident member of the translators' community.

It appears that, until recently, translator training has not received enough attention to meet today's translation market. Too much stress has been placed on the purely linguistic aspects of language acquisition, and the teaching has been limited to translation activities connected primarily with foreign language acquisition, or on the study of a foreign language and culture (Caminade and Pym, 1998). Roberto Mayoral (2003) is only one of many university lecturers and researchers to stress how hard it is for many schools today to adapt to the new reality:

"The labor market is undergoing change at an exponential rate. Spanish universities are finding it practically impossible to adapt to the new needs."
(Mayoral, 2003: 4)

Although some European institutions have already introduced new training programs which take into account the new demands (these include: the University of Granada, Spain; the University of Leeds, UK, and others), this teaching approach has been slow to evolve

and many other European educational centers have not yet started including translation theory and other skills that are useful for translators, such as documentation techniques, terminology, use of tools, computer resources, etc.), and areas of specialization for translators, such as economics, medicine, and law.

Another very important change that has been introduced in training programmes is the stress that is now being put on the ability of the student to do research and to look for online resources with a view to finding the desired term. Teachers are increasingly sharing with their students the experience and knowledge relating to online references which are much needed in many cases to produce quality results. Without such knowledge, students will stay behind in comparison to their competitors. In our present days, in a world where obtaining and processing information is much more valued than most other virtues, translation programmes must include strategies that can develop informational skills. The Internet and the fast expansion of electronic information resources make it indispensable for translators to learn how to process great amounts of information in an effective and as little time-consuming way as possible. What is more, they have to be capable of quickly locating the sought information and of judging its relevance and quality. Although most of today's students have at least basic knowledge of computer tools and of the Internet, as they have been brought up in the 'computer era', they nevertheless should become familiarized with all electronic and computer tools available on the market and used in professional work (Gouadec, 2003).

In my opinion, the main concern today should be how to provide students with these skills while at the same time equipping them with some minimal degree of specialization. Training institutions should not dedicate too much of their curricula to training their students in a specific highly specialized field, as these are likely to change with time; instead, they should endeavor to be universal, to include training much wider in scope (Gouadec, 2003):

"Today we do not simply have to train people to become translators: we also have to train them so that they can become, in part (within a broader

context dominated by translation), or in full (within organizations driven by the bigger markets) terminologists, technical writers (or co-writers), language engineers, and much more." (Gouadec, 2003: 33)

Brian Mossop (2003) holds a very similar view on this matter:

"In my view, the function of a translation school is not to train students for specific existing slots in the language industry, but to give them certain general abilities that they will then be able to apply to whatever slots may exist in 5, 10, 15, or 25 years from now. In other words, I think university-based translation schools must uphold the traditional distinction between education and training. They must resist the insistent demands of industry for graduates ready to produce top-notch translations in this or that specialized field at high speed using the latest computer tools." (Mossop, 2003:16)

This argument is especially valid when one realizes the fact that many translators decide what path of career they want to follow only after they graduate (Gouadec, 2003). As most students are likely to choose the specialization they want to focus on in their professional life only after graduation, or in the final years of studies, and because training should aim at being as universal as possible, translator education should also prepare their students to be able to cope with any stage of the process of translation (e.g. revision). Some career paths simply require mastering only a specific part of the whole translation process.

The variety of assignments delivered to translation agencies (and consequently their profits) depends not only on the quality of the translation itself but is also likely to depend on the range of services they offer to potential clients. There is no doubt that translation agencies are more competitive when they incorporate specialists from various fields, such as information scientists, terminologists, translators, and specialists in editing. However,

keeping a wide range of specialists is only cost-effective on a bigger scale, the reason why there are still so many small- and medium-size companies operating in the translation business.

An efficient and interesting way of getting students acquainted with working conditions would be to simulate real labour market by, for instance, organizing an imaginative translation agency inside the training institution. Such method would be in line with Gabr's (2001) opinion on training translators. He focuses on the need to put knowledge into practice, to familiarize students with what is ahead of them. Such an approach has also another advantage, crucial in today's translator's professional life – the ability to work in groups and to interact and co-operate with other members of the group. Roberto Mayoral (2003) goes even further and emphasizes the ability to work with other translators and professionals in related fields, as well as with experts in the subject field of a given translation. Many major translation agencies nowadays are built up with many professionals from various areas, another attempt of adaptation to the new demands the translation market sets. Teamwork is a challenging virtue to acquire, but proper training should quickly help even the greatest individualists master communicative abilities.

Last but not least, while adapting to the new demands of the translation industry, one should not ignore, nor underestimate, the importance of continuing the humanist tradition – that is to maintain the teaching of 'classic', standard abilities which are crucial for the understanding, editing and creation of a text, especially when referring to university-based translator training undergraduate courses (bachelor's degrees). Without the ability to provide an insightful interpretation of a text, without the capacity to produce a coherent, well-structured and grammatically correct piece of writing, or to perform a clear, unambiguous act of speech, one could not function as a translator. Without intelligence and a good capacity to process information, regardless of the form in which it is presented, students will not be able to meet the clients' expectations and, therefore, to produce translations that comply with the clients' briefings. Thus, proper training must be provided. These are the most crucial, basic set of skills, the foundations upon which other abilities rest. The modern technology can and does speed up the work, but if students are not

capable of understanding all the implications of the source text and produce a coherent translation, technology can do little to help. Brian Mossop (2003) puts it this way:

"So, what are the general abilities to be taught at school? They are the abilities which take a very long time to learn: text interpretation, composition of a coherent, readable and audience-tailored draft translation, research and checking/correcting. But nowadays one constantly hears that what students really need are skills in document management, software localization, desktop publishing and the like. I say, nonsense. If you can't translate with pencil and paper, then you can't translate with the latest information technology. […] The procedure for writing in the key words for a Boolean search is simple and requires little thought or intelligence to learn; it can be acquired in half an hour. What cannot be learnt in half an hour, or even half a year, is deciding which words to enter, and how to assess the results." (Mossop, 2003:16)

However, to devote most of the curricula to teaching these basic 'classic' skills would entail not taking into account today's market demands and students' expectations in the computer era. Therefore, the ideal solution seems to be to combine traditional lectures (covering traditional, 'classic' skills training) with multimedia activities (including teaching how to optimize the work using the latest technology). The use of virtual media as teaching materials would allow not only to adjust the teaching of students in a way that prepares them for the labor market, but also to reduce animosity that some students have at traditional lectures conducted by teachers (Pym, 1998).

3.   On-Line Resources for the New Translator

3.1 Machine Translation - Historical Overview

The development of Machine Translation systems is described in detail in Arnold et al (1994), amongst others, but full history of MT is not relevant here, therefore I will rather recall a few more important dates and facts to draw a general picture of how MT came into being.

First attempts of conceiving a machine that would translate from one language to another are believed to date back to 1947, when a British crystallographer of the Rockerfeller Foundation Warren Weaver came up with the idea to benefit from his wide experience in code-breaking during World War II, by designing a machine capable of decoding a natural language. He managed to persuade the American government to fund research in this field. However, contrary to Weaver's initial assumption, that such a task would be an easy endeavor, the research proved to fail. Bar-Hillel, a philosopher, was first to voice doubts that fully automatic, high quality machine translation (FAHQMT) was impossible to construct not only at that time, but in principle. His 1959 report on the matter demonstrated that translating requires general knowledge about the world, needed to identify the context in which a word is put, so as to determine which of the accepted usage of the word is in play. Bar-Hillel argued that it is impossible to build such knowledge into a computer. The ALPAC Report in 1964 officially recognized the limitations of MT and the government of the United States ceased funding research projects in MT.

Despite the negative feedback of the ALPAC, MT research did not stop, although its scale was considerably diminished. The Mormon Church, and other non-governmental institutions continued to fund research in MT, although many of these research projects were only indirectly related to the MT itself. It was not until the 1970s that MT research regained its funding. In 1976 the Commission of the European Communities (CEC) purchased the English-French Systran system and further improved it (to finally develop

the EUROTRA). Other innovations in this field include the PAHO's Spanish-English MT system SPANAM, the U.S. Air Force funding of the METAL system and the Canadian METEO system, as well as rapid expansion of MT activity in Japan.

As one draws nearer to the present time, research in MT is becoming more blurred and less objective. The systems that were being developed in the 1970s and in the 1980s are certainly a strong fundament on which more recent developments have been built. However, there are still many issues to be addressed in MT, and although MT seems to have an established position and play a vital, ever-more significant role in our lives, researching and improving MT systems remains a challenging task in terms of management, time and money. It seems that it might still take some time before a real FAHQMT will be developed, if ever.

3.1.2 Why Machine Translation Matters

As Arnold et al (1994) have already pointed out, there are a number of reasons why Machine Translation plays an important role in our lives – socially, politically, commercially, scientifically, and intellectually. To ask why automating the process of translation is of any importance to the modern societies is to inquire about the reasons why translators are so important.

The socio-political aspect of MT applies especially in communities where more than one language is officially recognized. In countries like Switzerland or Spain, and in organizations like the European Union or the United Nations, multilingualism is an everyday state of fact. Unless one wants to opt for establishing a lingua franca (and as a consequence dislodging the existing natural language(s) and therefore possible disappearance of a respective culture and a way of thinking), translation services must be provided to enable communication. It is rather indisputable that everyone should have the right to express themselves, to interact with other members of the society and to be informed of decisions that directly affect their lives in their own mother tongue which is why translation is indispensable in such contexts as multilingual communities. The problem is that the demand for translation nowadays, especially in those communities, exceeds by far a possible supply. There simply are not enough human translators to cope

with an ever-increasing number of translation assignments and the only way to meet the demand is to increase productivity by, for example, automating the very process of translation.

MT, as a way of enhancing the translation process, is also widely used in commerce, as it helps to acquire a larger range of clients. It is obvious that anyone faced with a choice between a product with an instruction manual in their own mother tongue and in the source language of the product would opt for the former. In the case of some products, like medicines or life insurance, it is no longer just a question of taste and comfort. Moreover, translation is expensive. It lies in everybody's interest to render necessary expenses (like commissioning a translation) as cost- and time-effective as possible. This concerns both translators (they can use MT to shorten the time spent on the assignment) and those who commission translations.

> "It has been estimated that some 40-45% of the running costs of European Community institutions are `language costs', of which translation and interpreting are the main element. This figure relates to translations actually done, and is a tiny fraction of the cost that would be involved in doing all the translations that could, or should be done." (Arnold et al, 1994:2)

Scientifically, MT is important because research in this field is often explored as testing ground for developments in computer science, artificial intelligence and linguistics. A good example of this would be Prolog, "the first widely available logic programming language, which formed a key part of the Japanese `Fifth Generation' programme of research in the late 1980s, which can be found in the `Q-Systems' language, originally developed for MT." (Arnold et al, 1994).

From the intellectual point of view, MT is interesting because it involves automating intellectual and psychological mechanisms that occur while translating. It can turn out to

be a very enthralling occupation to ponder on the attempt of capturing human intelligence and common knowledge in a machine and make it 'think'.

Another good reason why machine translation matters is that they give regular people the opportunity to learn about new things described in foreign languages (this is especially valid for domains such as medicine or computer engineering, in which new technology is being developed and described in such languages as English or Japanese, as most of the most recent advancements is done in countries like the United States or Japan). As Belinda Maia (2008) points out, reading about new things incites and, in the long run, stimulates people's curiosity and may therefore lead to an increase in translation assignments in the given field.

3.1.3 Misconceptions about MT

As has already been described (Arnold et al., 1994: chapter 4), there is quite a considerable number of misconceptions about MT which circulate in today's press and amongst people, including translators and translators-to-be. It is important, however, to outline the objectives and limitations of MTs in order to make a clear distinction of what one can expect from MTs and how MTs can be used, and with what view. One must be aware of its strong points and shortcomings. Given the current development stage of MT systems, it would be unrealistic to expect Machine Translations to fully replace humans. Let's take a look at the most popular ideas, some of which are wrongly conceived, about MT:

- "MT will never be able to provide a high-quality translation of a literary work."

Machine Translations have not been designed to attempt literary translations. Translating a novel requires a great deal of special skills that even the majority of human translators lack. I agree that for the time being machines are not capable of producing even a decent translation of a content that is rife with metaphorical or/and idiomatic expressions.

Perhaps they will never be, although its constant evolution and rapid development makes it rather hard to predict what machines will or will not be able to accomplish in the future.

Literary translations are only a drop in the sea of the hundreds of thousands of translation assignments, so there is still a huge number of non-literary contents that need to be translated and where MT may and in fact does comes in handy. More importantly, what would then become of the delight and satisfaction that come from dealing with such texts?

- "On the whole, MT systems deliver translations of very poor quality, so they're not practical."

First of all, there are MT systems designed to carry out translation tasks in a specific domain which prove to be highly efficient (Arnold et al., 1994). The most common example of this is the Machine translation system METEO developed by the Canadian Meteorological Center in Dorval, Montreal, used daily to translate weather predictions from English into French for transmission to press, radio and television. Other possible usages of MT systems characterized by great efficiency and exactitude involve those applied in translation of technical manuals (e.g. car industry), some of which have proved to be extremely time saving and cost-effective from the commercial point of view. In the case of more universal MTs, not restricted to a specific area, like those that can be easily accessed online free of charge (Google Translate, Babelfish, etc.), they can be extremely useful even if the work they produce is imperfect and unsuitable for information dissemination purposes. They are irreplaceable when it comes to working out if a text or an article one suspects to be of some importance to one or to one's company is worth getting translated properly. In such case, even a rough translation draft carried out by a machine translation would help assess the pertinence or relevance of the source text in question. Besides, MT is vastly used by translators as well, to compose draft translation of the assignment, even if it is just to solve the most obvious problems like choice of terminology.

- "MT systems might one day replace humans."

Such an assumption is common and many professional translators as well as younger generations, considering the possibility of pursuing the career as a translator, are afraid of. Indeed, given the rapid progress and the scale of funding research in Machine Translation systems, one might assume that the technology might one day equal human translators, or even outdo them (in terms of time spent on translation, and therefore, cost-effectiveness). However, as was shown by Belinda Maia (2008), MTs are still far away from reaching that level of sophistication, as respective researchers have not yet come up with valid solutions to overcoming the tool's limitations, such as collocations, synonymy and polysemy (I will elaborate on this later). However, even assuming that the technology advances to the point of being capable of producing 'good' translations - suitable for dissemination of official information - it is very unlikely to entirely replace human translators. Another reason why there will always be room for human translators is that the volume of translation to be performed is so huge (and constantly growing) and diversified. Let us imagine that an extremely important conference is being held in 2050 between two or more countries that had been at war for many years and which are both very sensitive about certain issues and even certain words that should not be used in their presence. Using a machine to interpret during such a conference would be a highly risky solution and an unreasonable means of avoiding 'language costs' by not outsourcing the interpreting to a human interpreter who is much more likely to better understand the underlying problem and the very delicate nature of the negotiations.

3.1.4 Machine-Assisted Translation versus Non Machine-Assisted Translation

"For the present and immediate future, the uses the more general public makes of MT are restricted to 'gist' translation, or fast translation for intelligent users, when human translation is out of the question because of time and other factors. For example, this is an option the European Commission translation services offer people in a hurry. The on-line MT

engines are aimed at helping tolerant users deal with ephemeral texts and, generally speaking, they help communication in many situations." (Maia, 2008:8)

Given the current state of research with respect to machine translation tools, their use at present is limited. As regards the translation industry, MTs are usually employed to help produce rough drafts of translations that require more or less considerable amount of time spent on post-editing. There still seems to be a clear division between translators who work with MTs and those who argue that using machines to get a draft of a translation in fact entails much more work and gives less satisfactory results than when the translation is performed without the help of a machine. However, there is a general increasing tendency towards machine-assisted translation, simply because more and more translators come to appreciate it. A survey carried out jointly by the Association for Machine Translation in the Americas (AMTA), the European Association for Machine Translation (EAMT), and SDL in 2009 amongst language service providers on the use of Machine Translation tools confirmed that there is 'more consideration and use of MT, rising interest among language service providers (LSPs), and increasing awareness of the value of post-processed (aka "post-edited") MT'.

There is no doubt that machine translation is far more productive than human translators. It allows for the translation of larger passages of text in less time and it definitely proves less expensive than outsourcing the translation assignment to a human. Its productivity, however, has its price – the quality. This is why in present time as well as in the near future any translation performed by a computer must be revised by a human to ensure high quality. Still, in the communication and information society we are now living in and with the whole process of globalization taking place, fast translations are more and more appreciated, and deadlines are becoming shorter and shorter. To the extent that many translators simply cannot afford working machine-free, for by doing so they will be forced to take up less assignments and therefore they will stay behind their competition – most clients will choose translators capable of completing the job faster, which usually means those using machines over those who rely solely on their skills, often regardless of the

quality of the final outcome. Besides, using machines is highly cost-effective for the translators themselves, as it enables them to spend less time translating, which is very relevant as most written translation assignments are charged based on the number of pages/lines/words and not per hour.

Moreover, if certain conditions are met, some quality results are likely to occur. For example, machine translation tools give more satisfactory results when the source and the target language belong to the same linguistic family; or when the language at stake are spoken by a large number of people worldwide. It is much more likely for a machine translation system to produce a decent, even good, translation when translating from Spanish into Portuguese, or from French into English than from Polish into Japanese. Apart from this, machine translation systems are constructed with specific fields in mind and for very specific purposes, as is the case of MTs used in international companies with limited profile of operations, like tire manufacture or user's manuals for e-note books.

3.1.5 Will Machine Translations ever replace Humans?

As can be concluded from the section 'Machine Translation – Historical Overview', when MT research first started over half a century ago, it was mainly driven by the need for intelligence gathering. First attempts at constructing a machine capable of translating did not contend with today's use of MT in the context of the communication and information society, as was the case of many research projects and innovations. What had been first intended as an expensive and exclusive means to increasing the level of national security, available to a very limited number of people, is in the present time, in fact, a commonly-accessed (often free of charge), commercial product used daily by millions of people around the globe, mainly to get the gist of a document to see if a proper translation is needed. This particular use of MT is undeniably a great contribution to the modern world. In this context, MT is irreplaceable: it saves the money and the time both of which can be applied to other more important activities, and is very often the only real way for many Internet-users to get at least a general understanding of the contents of the sites they navigate through on the Internet. In this way, MT greatly contributes to the process of

globalization, enabling cross-border communication and intercultural, international information retrieval.

As far as the translation industry is concerned, however, machine translation tools are not as irreplaceable as they may be in other fields, and their importance and relevance is not that obvious:

> 'The question, the real question is *will we be chased out of the market by MT?* The decision rests with our clients, not with us and our arguments. Will our clients drop us for Google or Bing? Some indeed will, others will not [...]. The type of client who wants the lowest possible price and does not care a hoot about quality can be counted among the first casualties. Other clients simply cannot tell good from bad. This will mostly be the case where the client wants a translation into a foreign language. A German client who wants a translation into German is likely to read the translated text and be able to tell it lacks quality and requires post-editing. But the same client may be quite happy with a bad quality translation into Portuguese, for the sole reason he cannot tell Portuguese from Chinook.'
> (Nogueira & Semolini, 2010:2)

The answer to the question 'Will machines replace human translators' is twofold: yes, because there will always be those clients who do not need a high-quality, exact and flawless translations – this applies especially to translations of documents intended for internal purposes within a company or organization; and no – MT systems are just too imperfect and in the case of serious assignments may lead to disastrous misunderstandings.

It seems that the more official the status of the publication/dissemination of a piece of information to be translated, the less a translator should rely on an MT. Similarly, the broader and the less specific the subject matter of the translation assignment, the more likely it is that the outcome of such translation would be less than satisfactory. This is due to many convergent factors. Let us examine them.

a) Lack of general knowledge about the world

The first and perhaps the most important reason why machine translation tools are not able to produce high-quality translations, at least at present time, is that in order to do so, computers would have to be taught general knowledge about the world, which involves a great amount of facts to get familiarized with. Even if MT researchers managed to equip computers with such knowledge, it would not be enough to assure good quality of translation because many cases require processing of these facts and the ability to inter-link between them. Such ability may be called intelligence or, after Doug Arnold (2003) the 'common-sense reasoning':

"The […] problem is that computers cannot perform common-sense reasoning. There are several reasons for this, but perhaps the most serious is the fact that common-sense reasoning involves literally millions of facts about the world (water is wet, men don't get pregnant, most people have two feet, sheep are larger than fountain pens, if B has been put in A then A contains B, for A to contain B, A must be larger than B, and so on). The task of coding up the vast amount of knowledge required is daunting. In practice, most of what we understand by 'common-sense reasoning' is far beyond the reach of computers." (Arnold, 2003:34)

For the time being, a seemingly easy (for human translators) sentence like this one: 'Elephants are smaller in size than most dinosaurs had been; their extinction is still a major enigma of earth history" still poses a challenge for computers, simply because they are not familiar with the generally known fact that dinosaurs have been extinct for millions of years, which may lead to improper use of personal preposition. This becomes even more problematic in the case of words and terms which have more than one meaning.

b) Identifying the right context

To accurately translate a word which has several accepted usages (which is the case of most words in all natural languages – Arnold et al., 1994), one first needs to determine the context in which the word has been used (Dorr, Jordan & Benoit, 1998). What comes as instinctive to human translators may be incredibly difficult for computers. When we realize that to be able to identify the right context in which a word or a term has been put (and thus decide which meaning of the word is to be translated) actually means to be capable of *thinking* ('To decide by reasoning, reflection or pondering; to judge' – according to The Free dictionary), then we can see how far away computer technology is from producing proper high-quality translations. Putting aside the question of identifying the part of speech (let us assume that an MT system has done it correctly), how can an MT decide which usage of the word *pen* is in play in the following context: '*Woman sent to state pen for role in meth lab*' ? This rather catchy title of a newspaper article contains the word 'pen' which in this context is used as an abbreviation for 'penitentiary'. According to the Dictionary of American Slang and Colloquial Expressions (Spears, 2007), 'pen' in American slang means 'prison, penitentiary' (the Canadian version of English also allows this usage). In order to 'teach' computers to recognize this context would therefore not only involve specifying that this usage is only accepted in the United States of America and Canada (e.g. pointing out that in case the source text was conceived in Great Britain, such usage is improbable, if not invalid), but it would also require providing the computer with the capacity to somehow (how??) exclude all the other possible usages.

c) Machine translation tools are not the same as dictionaries !

Neil Coffey has conducted a highly interesting experiment on machine translation users. The study analyzed 549 Spanish-English queries, and most respondents were introducing texts/words in their native language – Spanish. The results showed that 38% (!!!) of the users used the tool to look up a single word or term! In fact, 30% of queries consisted of a single word ! Other entries included: translating a formal text (23%), Internet chat session (18%), homework (9%). Neil Coffey (2009) comments on this observation:

"There is clearly a need to educate students and users in general on the difference between the electronic dictionary and the machine translator: in particular, that a dictionary will guide the user to choosing the appropriate translation given the context, but requires single-word or single-phrase lookups, whereas a translator generally works best on whole sentences and given a single word or term, will simply report the statistically most common translation." (Coffey, 2009:4)

The results of the above-mentioned study only suggest that people lack education in the field of machine translation systems.

d) Identifying the part of speech and the correct grammatical construction

Words like 'access', 'touch' and 'present' are ambiguous because they can act as a noun, a verb or an adjective, depending on the context. On the phonetic level, they are easy to distinguish since the stress is different for different parts of speech, therefore the task would not be that difficult in case of speech recognition devices (which are also being researched). But in case of an MT, which can only discern written patterns, deciding on whether the word used in the text is a noun or a verb is quite a challenge, especially with languages where there is no established, fixed word order structure (English word order is inflexible and allows a very small degree of change). Even native speakers have sometimes difficulty in identifying the part of speech a given word stands for in a given sentence.

Another very realistic issue that hinders the computers' path to perfection is one particular grammatical structure – collocations, and the phenomenon of phrasal verbs and idiomatic expressions in particular. As many researchers have observed (Maia, 2008), incorrectly identified phrasal verbs and wrongly used collocations are major indicators that the text is a translation, not written by a native speaker of the target language. Errors involving wrong usage or misinterpretation of a phrasal verb may have disastrous consequences. Failing to recognize the difference between the English 'to bring in' and 'to bring about' might lead to serious misunderstandings, and even more so if the translated text is, for instance, an

important official document. MT systems have proved unable, so far, to attach the prepositions to the verbs when those form phrasal verbs and constitute an integral unit. Unfortunately, there is no way of determining whether the given verb and preposition are separate or not, apart from understanding the context. Another, however less grave, yet still relevant problem are collocations. Many clients commissioning commercial translations very clearly stress that the target text must be as realistic and 'native' as possible. Simply because the target readers' reception might, and usually does, affect their business. If the product an international company wants to sell to people from different countries is advertized by means of poor translation, potential buyers will not identify themselves with it and they are much less likely to become actual buyers. Considering this from another – socio-political – angle, it is easy to imagine the reaction of Finns, for example, and the ensuing consequences if the official legal documents from the European Union were translated into Finnish with collocational mistakes.

e) Lack of creativity

Another important limitation of machine translation systems is the lack of creativity, or incapacity to create new rules instead of following the existing ones. This applies especially to literary translations (and more specifically poetry), where a significant amount of metaphors and neologisms is used. Such texts usually require a great deal of creativity on the part of the translating entity, due to various reasons. Firstly, because it is difficult, even for human translators to tell if the given term or expression actually is a metaphor, a neologism, or simply a proper name. Secondly, because deciding on the equivalent for a metaphor requires a deep knowledge about the different connotations which are valid in the culture of the target readers of the text. Finally, producing a good translation of a novel, and in particular of fantasy or science fiction novels, very often involves creating new words or understanding words or plays on words that are not obvious, nor literal. Therefore, translating for example the word 'muggle' (a person who lacks any sort of magical ability), one of many neologisms formed by J.K. Rowling in the Harry Potter series of books, is a challenging, currently rather impossible, task for computers. Literary translations also require a high degree of sensitivity and the delicate

skill of being able to render the source text in a given style – both of which are hardly possible to be 'taught' to a computer.

3.1.6 Online MT Services and MT Engines

New MT engines are appearing on-line almost every week. It is extremely hard to keep oneself updated with the changes in this field (the existing ones also change). Choosing from the enormous directory of MT engines and MT services available on-line compiled by John Hutchins (2009), I decided to include only those that I have experimented with as well as those which I think are the most universal (offering wide range of language pairs to be translated from and to); most of them are free of charge:

a) Applied Language Solutions

Used frequently by such online information services as CNBC, and companies such as Google, Applied Language Solutions is a UK-based multifunctional translation service provider offering services in more than 170 languages. Its online free-of-charge MT tool provides translations, in various combinations, into and from the following languages: Arabic, Chinese, English, Dutch, French, German, Italian, Japanese, Korean, Portuguese, Russian and Spanish. The tool can translate both texts and whole websites, and can be accessed through: http://www.appliedlanguage.com/free_translation.shtml.

b) Babel Fish

Named after a creature from the novel 'The Hitchhiker's Guid to the Galaxy' by Douglas Adams (when placed in one's ear, it allows the person to understand any spoken language), Yahoo's free-of-charge machine translation tool Babel Fish can translate either text or full web pages from the Internet in the following languages (various combinations possible): Chinese, Dutch, English, French, German, Italian, Japanese, Korean, Portuguese, Russian and Spanish. Its unique functionality 'Search the web with this text' allows the users to

search for websites in the target language which contain the text/ the phrase the user introduced for translation. Babel Fish is based on the Systran technology and can be accessed through: http://babelfish.yahoo.com/help.

c) Google Translate

Probably the most commonly used, Google Inc.'s free translation service Google Translate currently provides instant translations in 58 languages in any combinations (amongst many others, English, French, German, Italian, Polish, Portuguese and Spanish), and is testing another seven (Armenian, Azerbaijani, Basque, Georgian, Haitian Creole, Latin, Urdu). Google Translate deals with both texts and websites. As with any other machine translation system, also using the Google Translate the translation accuracy will vary across languages, because it uses a huge database of documents in the target language which had been previously translated by human translators and then makes guesses as to what an appropriate translation should be (statistical machine translation). Clearly enough, the bigger the database of documents in a specific language, the better the translation quality will be. Google Translate also displays some additional features which will boost your search/translation – the 'Translated search' determines which languages have the best information for your query and translates web results from those languages back to yours; the 'Global Market Finder' can, amongst other things, automatically translate keywords into the target language, and see where customers are searching for your product.

d) Lexilogos

Lexilogos is a free-of-charge comprehensive set of resources for the study of the languages of the world. It encompasses a large number of tools, such as online dictionaries, forums, MT, glossaries, grammar compendia, virtual multimedia library and supports more than 150 languages. Moreover, Lexilogos' option of multilingual keyboards allows you to introduce texts in almost every known alphabet instantly. Lexilogos has helped me a lot

throughout my experience with translation in the most diversified domains. It is perhaps most efficient with translations from or into French, as it started off in 2002 supporting French dialects, thus French dictionaries and MT systems here must be amongst the richest. Even if you cannot find the term you are looking for, Lexilogos gives you a list of other Internet-based resources which may be more helpful. It is so comprehensive and so universal partly because it has access to a large number of MT systems, such as: Babel Fish, Cimos, Fordito, FreeTranslation, Poltran, Presis, Promt, Reverso, Systran, Translendium, Worldlingo. Its website: http://www.lexilogos.com/index.htm.

e) Reverso On-Line

Reverso has been developed by Softissimo, designer, publisher and integrator of language technologies. It uses both statistical and linguistic approaches and offers language support in 25 language combinations. Reverso offers both text and website instant translation services. I have been using its MT free online service for some time now for intelligence purposes (mainly to get a gist of articles in foreign languages). It works with language support in, amongst others, English, French, Spanish, German, Italian, Russian, Portuguese, Bulgarian. I have also found its medical French-English-French dictionary useful in specialized translation assignments. Reverso can be accessed at: http://www.reverso.com/index-en.html.

f) VoiLa

Voila.fr is a multi-functional platform hosted by France Telecom. As far as languages are concerned, Voila offers free MT services using Systran system in the following languages: English, French, German, Italian, Portuguese, Russian, Spanish. This service is most useful for translators who work with French. Voila can be accessed via: http://tr.voila.fr/.

Keeping in mind the target public of this dissertation and given my own interest in the language pair English-Portuguese, I decided to include here an experimental tool elaborated at the University of Porto within the frames of the Linguateca Project called METRA[1]. METRA is, broadly speaking, 'a service developed by the Porto node of Linguateca. It submits a piece of text (Portuguese <-> English) to several commercial Machine Translation engines available on the internet, presenting the results of all the engines together'. METRA proves extremely useful to those seeking to use MT engines to produce draft translations between the language pair Portuguese-English, because it integrates most or all of the MT engines available on-line which offer Portuguese-English-Portuguese automated translations. The METRA team has included the following nine MT engines:

- Amikai - http://standard.beta.amikai.com/amitext/indexUTF8.jsp
- Applied Languages - http://www.appliedlanguage.com/free_translation.shtml/
- Babelfish – http://babelfish.altavista.com (Systran system version)
- E-Translation Server - http://www.linguatec.net/online/ptwebtext/index_en.shtml
- FreeTranslation - http://www.freetranslation.com/
- Google - http://translate.google.com/translate_t (Systran system version)
- Systran - http://www.systranbox.com/systran/
- T-Mail - http://www.t-mail.com/
- WorldLingo - http://www.worldlingo.com/ (Systran system version)

An article written by Belinda Maia (2008) on machine and human translation provides a more detailed description of the MT engines included in the METRA project, giving more specific information about their producers/distributors and briefly explaining the reasons for making them available on-line:

"Of these nine MT engines, four – Systran, Babelfish, Google and Worldlingo – are all based on the Systran system and the results are nearly

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[1] http://www.linguateca.pt/metra/

always identical. Systran's site is dedicated to selling its own products, but the Babelfish (Altavista) and Google versions are part of these search engines. World Lingo and the other free machine translation services are offered by organizations with an interest in providing a wide variety of professional language services, including human translation, localization and project management. Amikai, Applied Languages and World Lingo are the names of these bigger organizations, whereas E-Translation is the MT engine for the German firm Linguatec, and Free Translation is one of the SDL company products." (Maia, 2008:5)

Recently an updated new version of METRA, called METRA 3, has been created in which the number of comprised MT engines has been reduced from nine to seven - Amikai, Applied Languages, Babelfish, E-Translation Server, Free Translation, Google, and World Lingo,), with a view to reducing repetitions and shortening the waiting time of users for results. The new version of METRA can be accessed at the same address as the original one.

3.2 Web Search Engines

Web Search Engines, colloquially known as simply search engines, are special sites on the Internet that are designed to help people find information stored on other sites. The search results are generally presented in a list of results and are often called hits.

In short, Web search engines work by storing information about many web pages. These pages are retrieved by a Web crawler — an automated Web browser which follows every link on the site. The contents of each page are then analyzed to determine how they should be indexed. When a user enters a query into a search engine, the engine examines its index and provides a listing of best-matching web pages according to its criteria, usually with a short summary containing the document's title and sometimes parts of the text.

It is undisputable that search engines today constitute one of the most helpful tools for organizing information and retrieving it from the Web. And they are very often used by

translators in their work. I decided that it would be pointless to include here a list of search engines, because such a list can be found by simply typing in the phrase "search engines" in Google™ search engine (or any other, for that matter). Instead, I would like to share my experience in using search engines in my work as translator and show the most important features and functionalities which can easily save time and help produce better quality outcomes. This will be done in form of a user's guide. Please note that my experience has been gained using the Google™ search engine, however all of them will also work in Ask.com™, Yahoo!™ and AltaVista™.

a) Operator '+'

Most search engines while conducting search queries tend to search for terms that are exact or similar to the term we are after. This particularly applies to languages which allow graphical accents. Let's take the example of the Portuguese words 'Peru' ('Peru' in English) and 'perú' ('turkey' in English). Since search engines do not consider capital letters as relevant factors in search queries, there really is no way to clearly distinguish these two terms in a search query. I verified it by typing 'perú' in Google search engine (I limited the search to sites in Portuguese). In the first several pages of results there is not a single reference to the Portuguese turkey – all the sites were related to the country in South America. However, by placing the '+' sign just before the 'ambiguous' term (do not use the space bar to separate the '+' from the term!), a number of hits for web pages related to the animal pop up (of course, there are still many references to sites related to the country, which is caused by misspelling, or to sites of enterprises with proper name including the given word, but this is inevitable). To sum up, if there are two words which are different only by a graphical accent, and you are looking for the one with an accent, please remember to place a '+' sign before the word, e.g. '+perú'.

b) Operator '–'

This feature is used to narrow down the search query. For example, if you are trying to learn more about the rules of the American football, it may not be enough to type in 'football rules' because there are many variants of football as sports discipline (for example, European football). So instead, try limiting the search by using the '–' sign: 'American-football rules', and you will see that the results will not include references to sites related to other versions of football. You can basically achieve the same results by simply writing the given term in quotation marks.

c) The asterisk sign as substitution of any word

I find this method to be incredibly useful in translation. The '*' sign is used in search engines to replace any word. Which in practical terms means that if we have difficulty in recalling the exact expression in its totality either in our mother tongue (yes, this happens, too) or in foreign language, but at the same time we do remember words that follow or precede that forgotten word, we can type in a search engine the whole expression, substituting the missing part of the expression with the asterisk sign. In other words, if you know that 'there is an English expression' that begins with "keep your head to the…", but you just cannot bring yourself to recalling the last word of the expression, type in what you know, using the '*' sign in place of the missing words. Submit the query and you will find out the missing part.

d) 'Related:'

This interesting operator allows the user to search for web pages of similar contents to the web page that follows the operator 'related:'. For instance, if you type in 'related: www.ua.pt', the search engine will render a list of sites of similar contents to the university site (the results will also most probably include web sites whose addresses contain the sequence 'www.ua.pt'). This can prove very helpful for translators when they are searching for glossaries or thesauri or dictionaries similar to the one that has not been able to provide a good translation of a term.

e) Advanced search

Advanced search option allows the user to customize the search according to the given language, country, date of publication (or a time period within which the searched documents/articles were published), file format or using the exclusion criteria – you can indicate the term or the words you want the search engine to exclude from the search. Here, I would like to focus on the option that allows determining the time frame of the search. This has helped me on numerous occasions, especially when trying to verify the actuality of a term. By narrowing down your search to only the last several months or years, you increase the chances that the term is up-to-date. Another customization option is of significant value – search engines allow you to search by images. This is crucial when you are not sure if the term you have looked up in a dictionary is currently in use, and how frequently it is used in case there is more than one proposed translation. For example, the two possible translations of the English 'umbrella' into the continental version of Portuguese are 'guarda-chuva' and 'chapéu' (or 'chapéu-de-chuva'). The best way to see (apart from comparing the number of hits) is to search by images and see which one of these terms pops out more frequently. Searching by images is also helpful when you spot a word which does not appear in dictionaries or is typical of one specific culture and you have to come up with a good translation that would reflect the physical features of the object in question.

f) Analyzing the results

The number of hits rendered by the search engine is the primordial indicator of how frequently the given term is used by the native speakers of the given language. When you hesitate which expression (or even which preposition) fits best in the given context, simply type in both in the search engine and compare the results – the one that has more hits will most probably be a better translation. However, you must remember to customize the search (by narrowing it down to a given region or language). In this way, search engines work very much like corpora – they compile a large number of contexts in which the given

expression has been used and therefore allows to check occurrences and validate linguistic rules on a specific universe.

Another practical feature search engines offer is the indication of the size of the page. It usually appears to the right hand side of the link that is placed under the title of the web site (not all versions of Google provide this option). Generally, the bigger the size of the page, the lesser the probability that it will accurately correspond to our search.

g) Copy/Cache

Underestimated and even ignored by many, this option allows the user to access a copy of the given site, cached on the search engine server. I cannot stress how crucial this is to retrieve data from websites that have been closed or are undergoing maintenance/revision. To access the cached copy stored on the search engine server, simply click on the icon that says 'copy' or 'cache', placed to the right of the link of the site.

h) Terminology problems

Sánchez (2006) adds to the list of useful features of search engines: 'Some useful commands for solving terminology problems are to enter the following in the Google search box: (a) define: *term*; (b) *term* + glossary; (c) *term* means.'

3.3 On-line Dictionaries

All language professionals, whether they are translators, interpreters, editors, or translation professors, use dictionaries more than once a day. Thus, dictionary consultation is a major component of the research phase of translation (Varantola, 1998). It is therefore in the interest of language service providers to be able to efficiently use this reference tool. Philippe Humble (2001) and numerous sources elsewhere point to the fact that many dictionary users are unsatisfied, especially when consulting a bilingual dictionary. An

overwhelming majority of them attribute this to the inefficiency and inexactitude of lexicographers who supposedly lack abilities necessary to accomplish a satisfactory work. Many users oversee the possibility that it might be they who are not sufficiently trained in using a dictionary, a fact easily ignored since there is a general tendency to consider the activity of dictionary consultation as requiring no special skills nor training. As many sources observe (Roberts, 1997; Ramos, 2004), not enough attention has been given to the way language service providers and language learners use dictionaries. The majority of universities worldwide do not include training in dictionary skills in their curricula (the University of Manchester is one of the exceptions), my experience in this field confirms it. Also, it seems that there has been insufficient research carried out analyzing the profile of dictionary users (Roberts, 1992; Ramos, 2004). Lack of empirical research in this context is surprising given the role dictionary consultation plays in most translator's professional life. One of the few who contributed to this specific area of translation studies was María Ramos (2004). She carried out a study amongst students of Translation Studies at University Jaume I (Castellon, Spain) to see what are the types of dictionaries, the frequency of use, the main reasons for consultation, etc. in trainees. In this work, I will only focus on the findings regarding the second part of the study, that is, the electronic reference tools available on-line.

One of the most interesting findings of the study was the one concerning the difficulties of use of dictionary when looking up words and the reasons for these difficulties. It was observed that 30% of the respondents encountered difficulties in finding the words they looked for. Another 30% of the students complained that 'it was extremely difficult to find the specific information they were looking for' and finally 25% were unable to understand definitions. Most of the respondents (almost 50%) attributed these problems to flaws of the dictionaries and relatively few believed these problems to stem from other reasons like lack of familiarity with the specific dictionary (25%) or lack of dictionary skills (10%). Finally, the study revealed that most students had not been taught how to use dictionaries, having only 2% answered the training they had received was thorough. The above have been reflected in the next question of the study – although most of the students were aware of the existence of various dictionaries and reference tools available on-line, only about 4% defined themselves as good users.

Appendix 1 comprises a list of dictionaries available on-line which I recommend. As in the previous chapter, they can be consulted when working with the following languages (amongst others): English, French, German, Italian, Polish, Portuguese and Spanish.

3.4 Online Forums

According to the definition provided by Babilon, an Internet forum is 'a message board on the Internet focused on a particular subject, facility on the Internet to hold discussions'[2]. Internet forums differ from chat rooms in that messages are at least temporarily archived and that the information is exchanged on a non-real-life time basis. Moreover, some forums require registration or subscription from Internet users for them to be able to leave a post (comment, message), while other set-ups do not impose this sort of obligation allowing the users to keep their anonymity (in such cases the posted messages usually wait for moderator's approval before they are published). Usually users do not have to log in to read existing messages.

Forums are hierarchical in structure: they usually contain a number of sub-forums, divided into several different topics. Within a forum's topic, each new discussion started is called a thread, and can be replied to by as many people as wish to.

Needless to say, there probably are more forums than there are fields of study/occupations. Each forum is dedicated to a specific area, very often a rather restricted one with a very concrete target group in mind. Translation forums are no exception here. They are another way in which translators worldwide communicate and exchange information and experience. They share their knowledge on vocabulary and given grammatical issues, they exchange opinions on computational software they use and comment on various reference tools found on-line. Translation forums are also used as means of advertising job offers for translators and they are vastly employed as 'bridges' between the party commissioning

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[2] http://www.youtube.com/watch?v=7Rl4rEaAZLM&feature=related

translation assignments and translators eager to take them up. Below, I am presenting a short (definitely not exhaustive!) list of Internet forums related to the field of translation which can be found and consulted/joined on-line, followed by a short description about specific aspects of translation as a whole covered by the forum. The list is limited to the forums I personally have consulted or registered in and to those which deal with mainly European languages (although not only).

a) http://www.proz.com/forum

Pro-Z is one of the 'world's largest community of translators which delivers a comprehensive network of essential services, resources and experiences'[3]. Its main features include the extremely useful search engine of terms and phrases which have to date been discussed on numerous Pro-Z forums and can be easily reached through http://www.proz.com/search/. Upon registration, a freelance translators can join Pro-Z community and use it as an incomparable source for new clients – this is thanks to the searchable directory of freelance translators and interpreters which can, and is frequently, accessed by language job outsourcers. Many more features are offered by the site. One does not have to necessarily pay to get access to the numerous forums and topic threads available on this site.

b) http://translatorscafe.com/cafe/default.asp

TranslatorsCafé.com is a directory Freelance translators and translation agencies. This forum's main features are chat with language professionals, access to linguistic digest and translation resources, access to an everyday-updated list of translation jobs to choose from (upon registration). Registration is free of charge.

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[3] http://www.proz.com/about/overview/

c) http://www.geocities.com/Athens/7110/lantra.htm

Lantra-L is another translators' Internet forum frequently consulted everyday by thousands of language professionals. I personally consult this specific forum to inquire into rates translators charge for different assignments, but the site offers much more. You have to subscribe to be able to benefit fully from all its features. I recommend this forum especially for those engaged with technical/legal translations and those interested in knowing more about computer aids, translation tools, terminology and lexicography.

d) http://oasisllc.com/transtrad/free_translation.htm

Free Translation Forum contains a large number of threads dealing with very specific translation difficulties of given terms and sentences. Most of the threads are related to English and another language, but not all of them. The response time is quite short, I use it whenever I need a quick remedy to my translation problem.

e) http://members3.boardhost.com/translate/

Translation Job Club. The aim of this board is to put translators in touch with potential clients. Here, you can advertise your services, offer translation work, or inquire about training.

f) http://members3.boardhost.com/translate2/

Terminology Club. This is a free-access site where translators can post terminology problems and stylistic questions and invite other linguists to comment or help them out.

g) http://www.free-translator.com/forum/viewforum.php?f=1

Probably the most widely-oriented, the Free Translation Forum contains an enormous database of specific terminology and grammar issues the users encounter. Posting a new thread does not require registration. If you have any doubt in any language of the world, this forum bring volunteer translators from all over the world to assist you.

h) http://www.aquarius.net/

Aquarius is 'the longest standing on-line marketplace for translation and localization projects'. It has more than 100,000 language specialists from various areas registered and has outsourced around 10,000 projects since 2007.

4. Specialization of the New Translator

4.1 Localization

When speaking of localization, one has to differentiate between its two aspects. Localization can be understood as the cultural and linguistic adaptation of a given text – in this case the task of a 'localizer' is to provide a translation that is adapted both linguistically and culturally (the target culture is the most important point here) to the target public in a way so as to make the target reader/viewer believe that the given text had been composed by a native person of the given language. The other application of localization, more pragmatic, is the linguistic, cultural and technological adaptation of a software, which is mainly made at the computational level, usually by adapting the programming code so that it is compatible with other cultures, alphabets, etc. Both the cultural and the technological aspects will be dealt here.

4.1.1 General Overview

The word 'localization' is derived from the term 'locale', which Dictionary.com defines as 'a place or locality, especially with reference to events or circumstances connected with it'. In a programming context, a locale comprises all regional standards supported by software products, such as date/time formats, sorting standards, currencies, and character sets. The Localization Industry Standards Association (LISA; 2000; LISA was declared insolvent as of 2011 February 28) defines localization as follows: "Localization involves taking a product and making it linguistically, technically, and culturally appropriate to the target locale where it will be used and sold."

The word linguistically in this context means, of course, that the product must be translated. Technical adaptation involves adjusting the product's specifications to the standards supported in the target market. The most vast and difficult of all the activities localization entails is perhaps the cultural adaptation. It means that an great number of

modifications of the source text (the more complex the text, and the less alike the cultures of the source text public and of the end users' target group are, the more difficult it will be to localize the product) must be performed to appropriately localize the software.

In other words, localization involves no more no less than adapting a product to a specific locale, that is: to its language, (technical) standards and cultural norms and therefore corresponding to the needs and expectations of a given target market. What the definition above does not mention is the legal dimension of localization – a well-localized product also takes into account all the legal requirements which are in force in the end user's locale at the moment of the publication of the product.

In publications covering the subject of localization, two other concepts are very often mentioned: globalization and internationalization, or, as used in many specialized texts, G11n and I18n, respectively. Internationalization has various definitions, depending on the context in which it is used, but in the area of Internet-based translation and software development, it is defined by LISA (2000) as follows:

> 'Internationalization […] is the process of generalizing a product so that it can handle multiple languages and cultural convention without the need for re-design. Internationalization takes place at the level of program design and document development' (LISA, official website)

By comparing the terms of localization and internationalization, an obvious conclusion pops up – the process of internationalization takes place before the product is localized, and, secondly, that the better the quality of the first process, the more efficient will be the effects of localization. The first is applied 'at the level of program design', while the other is adaptation of the created program (plus on-line help and documentation). Both of these technical processes comprise globalization.

Globalization is likely to have many different definitions which depend on the particular angle from which it is considered, be it socio-political, commercial, or technical. This only

proves how complex this process is and how many different disciplines it encompasses. While the different aspects of globalization depend one from another and are intertwined (Kenneth A. McKethan, Jr. and Graciela White, 2005), in this work, we will only look at globalization from the point of view of translation activities. LISA (2000) defines globalization as follows:

"Globalization addresses the business issues associated with taking a product global. In the globalization of high-tech products this involves integrating localization throughout a company, after proper internationalization and product design, as well as marketing, sales, and support in the world market." (LISA, official website)

From the last two definitions, localization can be viewed as a means to help achieve globalization of a product (Ying-ting Chuang, 2010). The image below, inspired by a chart from the LISA website (which no longer exists) and found on Wikipedia (Wikipedia 1), is a very clear representation of the 'lifecycle' of a product in the context of globalization:
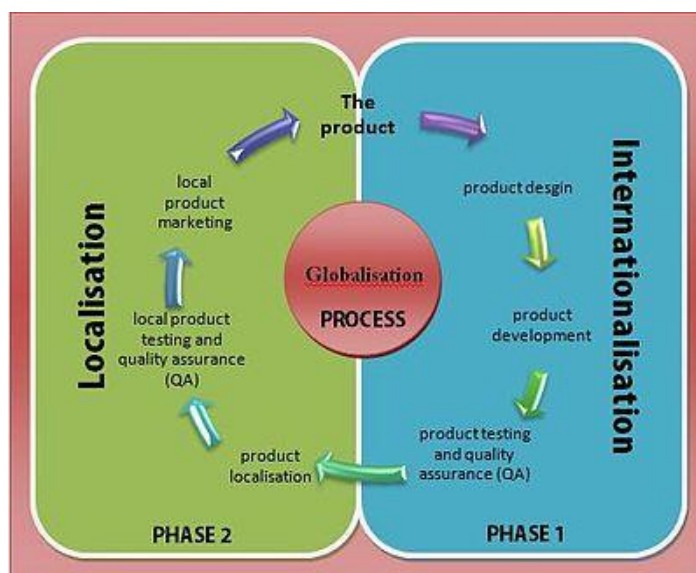

Figure 1: Representation of the 'lifecycle' of a product in the context of globalization.

Localization, as can be deduced from the chart, constitutes an integral part of the more general process of globalization, just like internationalization. Therefore, quite bluntly, globalization is the most general term and comprises both localization and internationalization, the latter being a wider term in meaning than the former.

According to Bert Esselink (2003), the realization of the need for localization came in the early 1980s, just about the time when the globalization process came into existence, although there is no agreed concrete starting point of the process. Before that time, software had been published in the language of the developers. At the beginning, the translation work was either outsourced to an individual freelance translator, or to single language vendors (SLVs), or else – the company itself would run a separate in-house translation department. With time, software developers realized that keeping an in-house translation department was costly, its management was problematic, and it kept their focus from the main core business. Thus, in the 1990s an extended outsourcing model took off and many multi-language vendors (MLVs) started appearing on the market. As globalization grew in force, MLVs began to merge with each other in order to be able to offer comprehensive language services. However, as work load in the translation industry and the demand for localization are immense, and ever-growing, single-language localizing companies still persist and co-exist with multi-language vendors employing mainly freelance translators (Dohler, 1997). In the case of both MLVs and SLVs in the present time, translators working on localization projects often make up only a small part in a conglomerate of the diversified team of experts – to obtain satisfying results, localization is the combined effort of translators, engineers, testers, desktop publishers and project managers.

Most of today's software localization is made from English into other languages, given the fact that most of the modern software is developed either in the U.S. or in other countries that use the English language. This is due to the fact that English has been, without any doubt, the most conspicuous language amongst all for being the lingua franca ever since the dawn of the 20th century (Dollerup, 1997: 89). Some opinions have been voiced that localization and globalization are in conflict when applied as translation strategies – the first being intended to translate into and promote minority (amongst others) languages, while the latter being viewed as the process of unification and uniformization of economy

and trade at the international level. However, Dollerup (1997) states quite the contrary – that these two co-exist and complement each other in that 'while promoting a process of unequal positioning of major and minor languages, or hegemonic and subordinate cultures (Venuti, 1998), they support and enrich the minor languages and cultures more than they do the major ones.' (Chuang, 2010).

In a paper entitled 'Electronic Tools for Translators in the 21st century', Pablo Sánchez (2006), a young expert in the field of localization, alerts against making a mistake in software localization which can have catastrophic consequences. He also mentions some of the current software localization currently available on the market:

> "The leading CAT tools for software localization are Alchemy Catalyst (http://www.alchemysoftware.ie/products/catalyst.html, commercial) and Passolo (http://www.passolo.com/, commercial); other alternatives include Resource Hacker (http://www.angusj.com/resourcehacker/, freeware), PE Explorer (http://www.heaventools.com/, shareware) and eXeScope (http://hp.vector.co.jp/authors/VA003525/emysoft.htm#6, shareware)." (Sánchez, 2006:4)

As witnessed by many translators who work in the localization industry, all these tools are very similar in use, but once a translator decides to use one specific software, they usually stick to it.

4.1.2 Localization and Translation

As a form of introduction to this sector, let us take a look at the illustrated representation of the relationships between translation and globalization and localization, inspired by O'Hagan and Ashworth (2002):
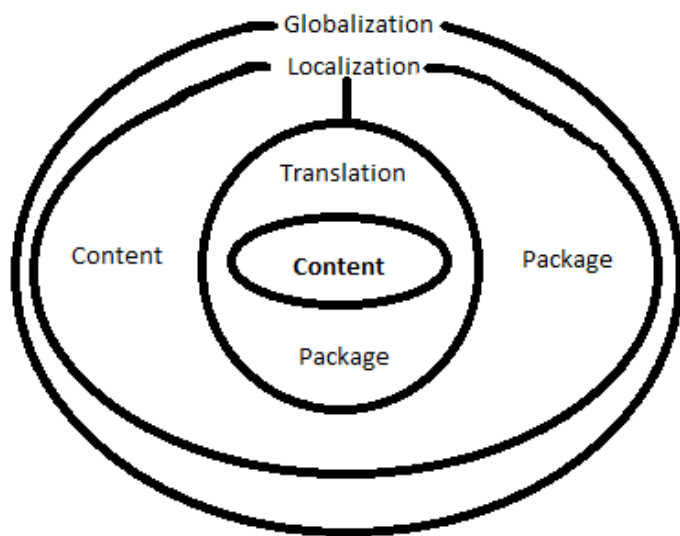
Figure 2: The relationships between translation, globalization and localization (O'Hagan and Ashworth, 2002).

An explanatory note is in place: O'Hagan and Ashworth borrowed the terms 'Content' and 'Package' as integral elements of a message from Gile (1995) who understands 'Package' as 'Linguistic and peri-linguistic choices made by the Sender and to the physical medium through which they are instantiated', and 'Content' as the essence of the message. As can be observed in Figure 1, O'Hagan and Ashworth consider translation as an activity which involves solely the 'culturalization' (adapting to the target culture) of Content, leaving culturalization of Package out of the scope of the traditional translation. This entails that the process of localization is by far more complex and comprehensive than that of mere translation. Moreover, the more complex the message is, and the less similar the source and the target language are, the larger the extent of the culturalization of Package. In practical terms, this means that while conventional translation deals with a mere text, localization is chiefly concentrated on the product. Advertising translation, for instance, is a good example of this divergence of perspectives. Localization of an advertisement is primarily preoccupied with the impact it will have on the target public (Chuang, 2010). Advertisement localization professionals' first preoccupation is whether the product will sell well – this is why its commercial value is indisputable and why its importance is ever-growing.

The differences between translation and localization do not end here, especially when software localization is concerned. Bert Esselink (2003: 69) breaks down these differences into four categories: a) Activities, b) Complexity, c) Adaptation level, and d) Technology used.

While traditional translation involves, apart from the proper transferring of the message from one language into another, activities like terminology research, editing, proofreading and page layout, localization comprises translation itself, and 'multilingual project management, software and online help engineering and testing, conversion of translated documentation to other formats, translation memory alignment and management, multilingual product support and translation strategy consultation'.

Localizing a product is an incomparably more complex enterprise than simply translating a source text. Esselink (2003) describes the complexity of software localization as follows:

> "As volumes are usually very large and all components contain dependencies, managing localization projects can be tricky. Large volumes and tight deadlines require teams of translators who all need to be reviewed carefully to maintain consistency. For example, when translator A translates the software user interface and translator B the online help files, all references to the running software translated by translator B in the online help must exactly match the software translations that translator A has chosen." (Esselink, 2003:129)

The number of adaptations that have to be done when localizing software is significantly higher than in the case of traditional translation. Innumerable 'details' such as character set, currency, default page sizes, address formats, custom calendars and date/time formats must be taken into account if the final product is to be well-localized.

Finally, the technology that is applied to software localization is much more complex than in traditional translation. Since the contents of software products and web sites is repetitive and it needs constant updating, re-using the existing translations allows to optimize the work. Therefore, use of translation memory tools, computer-assisted translation (CAT) tools and machine translation (MT) tools has become a necessity in this field.

4.2 Technical Communication

Translators who decide to work as technical communicators not only are expected to be fluent in the source and target language, but to possess highly specialized knowledge and a set of skills. Technical translators' services are called upon when translating Internet-related texts (although not only): web pages, social media sites, computer games, applications, etc. There is much work for technical translators today, and as technology expands, I believe this demand will increase.

4.2.1 General Overview

In the simplest terms, technical communication is, after Connatser (2007) 'the process of translating what an expert knows for an audience with a need to know'. Therefore, its main purpose is to inform rather than to entertain.

Although its origin is variously attributed to Ancient Greece, The Renaissance and to the mid 20th century, technical communication as a professional discipline and field of study truly started to shape after the First World War, driven by the need for technology-based documentation in the fields of intelligence, electronics, manufacturing and aerospace advancements (Duffy, 1985). The current Society for Technical Communication (STC) ('world's largest and oldest professional association dedicated to the advancement of the

field of technical communication'[4]) was formed in 1971 by merging the Society of Technical Writers and the Association of Technical Writers and Editors. The STC has ever since been the largest international body concerned with the theoretical and practical developments in the field of technical communication. As observed by Bradoford R. Connatser in his paper entitled 'Two Centuries of Progress in Technical Communication', technical communication might have improved over the last two centuries gaining clarity, concision, and precision thanks to the abundance of resources modern technical communicators can benefit from.

According to the STC[5], technical communication includes any type of communication which can be characterized by one or more of the following:

i) Communicating about technical or specialized topics, such as computer applications, medical procedures, or environmental regulations.
j) Communicating by using technology, such as web pages, help files, or social media sites.
k) Providing instructions about how to do something, regardless of how technical the task is or even if technology is used to create or distribute that communication.

There are two ways in which technical communicators help our societies nowadays. First, they render information more accessible and approachable to those who need this information. And secondly, they help companies or institutions reach their objectives and boost economic results.

Technical communicators often collaborate to create products for various media – paper, video, and the Internet. Such products may include: online help (localization projects), user manuals, specifications, process and procedure manuals, industrial videos, reference cards, data sheets, journal articles, patents, training, technical reports, and many many more.

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[4] http://www.stc.org/about-stc

[5] http://www.stc.org/about-stc

According to STC[6], these are some of the various job careers within technical communication:

- Technical writers and editors
- Information architects
- Technical illustrators
- Globalization and Localization specialists
- Visual designers
- Web designers and developers
- Trainers and E-learning developers

Another possible carrier path for technical communicators is technical translation, an occupation that is perhaps more relevant to this work, and which will be addressed in the next section. As observed in numerous works on the subject of technical communication and technical writing (Duffy, 1985; Jody Byrne, 2009), what all technical communicators have in common is 'a user-centered approach to provide the right information, in the right way, at the right time to make someone's life easier and more productive'.

Technical communicators must obey regulations and style and register restrictions pertinent to the respective context in which the work is being done, and therefore their work must be deprived of all personal style. The following rules, provided by Connatser (2007), are usually applied by technical communication experts in order to avoid opacity and ambiguity:

- Don't use double negatives.
- Avoid long sentences.
- Make items in a series parallel.
- Use bullets (or at least semi-colons) to separate complex items in a list
- Avoid elegant variation

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[6] http://www.stc.org/about-stc

The following section will look specifically at what technical communication is in the context of translation.

4.2.2 Technical Translation - Translator's Perspective

The following is the definition of technical translation as understood by Wright and Wright (1993):

"Technical Translation […] encompasses the translation of special language texts, i.e., texts written using Languages for Special Purposes (LSP). As such, technical translation includes not only the translation of texts in engineering or medicine, but also such disciplines as economics, psychology and law. These texts require not only a firm mastery of both the source and target languages, but also at least an informed layman's understanding of the subject field treated by the text, coupled with the research skills needed to write like an expert on the leading edge of technical disciplines." (Wright & Wright, 1993: 18)

And here is what the above-mentioned authors define as modern technical translators:

'Technical translators are typically either trained linguists who develop specialized research skills along with ancillary knowledge in selected technical areas, or engineers, scientists, and other subject-area specialists who have developed a high degree of linguistic knowledge, which they apply to the translation of texts in their fields of specialization. Because of the diverse know-how demanded for producing high-quality technical translation, collaboration amongst linguists and subject specialists is not uncommon." (Wright & Wright, 1993: 19)

It has been estimated that about 90% of the world's total translation output each year comprises technical translation (Kingscott, 2002). For this reason only, a wise thing to do would be to at least consider taking up this career path in our future professional lives. As Jody Byrne observes (2006), however, technical translation has been surprisingly largely neglected by the literature on translation theory, a rather disproportional fact given the number of translators working in this field. Wright and Wright (1993) attribute this status quo mainly to the fact that many technical translators are simply too busy translating to find time to write about the process itself. As has been observed by various authors (Wight & Wight, 1993; Byrne, 2006), there is general trend, especially amongst inexperienced technical translators and trainees, to hold a belief that technical translation is all about terminology, whereas according to Peter Newmark (1988), terminology accounts for only about 5-10% of a typical technical text. Thus, it should not be the terminology a technical translator should be most preoccupied with. Byrne (2006) points out that '[…] It's not individual terms that cause most problems, but the way those terms fit into sentences […]. Things like register, style, set phrases, references to law or sometimes whether certain information is appropriate for the target audience or whether the way in which the information is sequenced in instructions, for example, makes sense'.

However, one should not completely ignore terminology and terminology search. Byrne suggests (2006) that technical translators get rid of paper-based dictionaries, or at least reduce their use to the minimum (!). This seems to be a very valid and smart solution to the problem of constantly- and rapidly-changing terminology, especially in the high-tech industry. Dictionaries probably become obsolete the very moment they are printed (given the time needed to complete such publication and the fast rate at which new words and terms appear in certain domains). Besides, one never knows if the term a dictionary proposes will fit well into the context as dictionaries simply do not provide full contexts. In this case, a better solution would be to use Internet-based resources for consultation: on-line, frequently up-dated glossaries, and parallel technical texts which not only contain updated terminology, but can also serve as a good example of the style and register used in the specific area.

4.3 Audiovisual Translation

The Internet has revolutionized the translation industry in many ways. The main difference, however, lies in the change from the analog, paper-based approach to the digital reality which allows a large amount of flexibility in electronic processing. This is also reflected by the increasing amount of videos, video conferences, in general – audio-mediated and media-mediated communication contexts. To be a competent translator today means to be able to deal with translations that are based on the media. Although audiovisual translation is certainly not new, there is a foreseeable increment in the following modalities.

4.3.1 On-line News (Interpreting)

The need for interpreting live coverage of news is a relatively new activity for translators. It is more likely nowadays to cover hot high-profile piece of news on the Internet through streaming, and therefore here lies potentially one of the possible occupations for translators in the future.

4.3.2 Self-generated Video for Promotion

With the shift to the media-mediated communication patterns, and in the world of multinational, multilingual corporations, people have realized that resumes in the form of a video are more appealing than a plain curriculum composed on a piece of paper which does not stand out amongst other job applications. It is very likely that translating resumes, in the form of videos into multilingual, open to choice formats will become a whole new activity for translators.

5.   Enhancing the Work of the Translator (Total Quality in Translation)

5.1 E-mail

E-mail seems to be today's flagship means of communication that translators use to communicate with the commissioning party of the assignment. The advent of the Internet has very much minimized the use of traditional ways of communicating – by letter, replacing it with a much faster and therefore more cost-productive one. The use of e-mail may be taken as granted by many younger members of the translation society, especially those who grew up in the 'Internet era', since this particular tool has been in use for many years now. But it nevertheless remains an extremely useful way to get in touch with anyone relevant to the assignment, regardless of the main translation area the translator is working in.

E-mail is very much appreciated by the literary translators who are now able to reach the author of the book they translate in a quicker and more comfortable way:

'International publishing is a major business sector, which have been leveraged by translation. Recent bestsellers such as the Harry Potter series are published in translations into major languages. Many literary translators have commented how e-mail has helped them to access the authors much more readily and directly than it was possible before, allowing them to resolve translation-related questions quickly' (O'Hagan, Ashworth, 2002:78)

Literary translators are not the only ones in the translation industry who have greatly benefited from using e-mail boxes. It is quick difficult to imagine for example a localization project coordination without this communication tool.

Most Internet users choose free e-mail services like Hotmail, Yahoo! or Gmail, but in order to keep track of inbox messages and have them well-organized, it is much more

recommendable to use an e-mail application such as Microsoft Outlook (http://www.microsoft.com/outlook, commercial), Mozilla Thunderbird (http://www.mozilla.com/thunderbird/, free) or Eudora (http://www.eudora.com/, shareware). These e-mail clients help their users to manage all their e-mail POP3 accounts and retrieve e-mails from a remote server.

5.2 Speech Recognition

For some time now, speech recognition (or voice recognition) software has become sophisticated enough to be used effectively instead of typing at the keyboard. Although some authors (O'Hagan & Ashworth, 2002) argue that the technology is not completely without flaws, the amount of time spent on editing is often considerably smaller than when typing. Although it has been applied in many situations outside the translation industry – for example, for providing transcripts of congressional hearings (Corn, 2000), translators can also use it to their advantage. Some of the most modern speech recognition software has been equipped with many more features than simply recognizing someone's voice (and language) and providing a transcription of the text in a written form. Today, companies like IBM and Nuance have made it possible to first use a voice recognition system to produce the text version of a speech, which can next be translated into another language using sight translation. Nuance's product – Dragon, enables you to use your voice to launch applications, open files, control your mouse, and more. While these features are undoubtedly less useful to translators, they nevertheless strikes one's fancy and get one to imagining things that will be possible with this software.

The most recent introduction of the Desktop Translator on the market has revolutionized the work of many translators and editors. Here is a short description of the tool by Translation Journal[7]:

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[7] http://translationjournal.net/journal/00tools.htm

"Desktop Translator by Transparent Language is a translation tool for businesses, featuring NaturallySpeaking speech recognition technology from Dragon Systems. The comprehensive software package provides easy, hands-off translation capability and allows users to speak into the program and read and listen to translations of a wide variety of documents, including plain text, e-mail messages, Web pages, Microsoft Word and Corel WordPerfect documents. Desktop Translator is available for Spanish, French, German, English, Italian and Portuguese." (Translation Journal, July 2011:2)

5.3 Terminology Banks

Terminology banks, sometimes referred to as 'term banks', have long existed before the Internet became a common household means of communication. However, as in the case of dictionaries, the Internet made this reference tool more accessible and nowadays there are many terminology banks that translators benefit from on a daily basis. Palumbo (2009:112) defines terminology banks as follows:

"The label 'term bank' is used by some authors to indicate a large computerized termbase ('collection of term entries stored and organized as an electronic database, which is managed using a so-called 'terminology management system' [Idem]) created within a governmental organization, language planning institution or large enterprise, addressed at a broad range of users and frequently made accessible to external users on CD-ROM or through the Internet." (Palumbo, 2009:112)

Term banks organize entries taking meaning as a starting point, unlike dictionaries where entries are usually organized around words. In other words, terminology banks are centered around the concept – ideally, an entry gives various possible ways of linguistically labeling the given concept, providing the main, most frequently-used term, and other terms which are used to refer to the concept – synonyms. Some term banks may also include some

additional features: a definition, collocational use of a given term or concept, an indication of related terms to look up in the given terminology bank, the same terms in other languages (equivalents) etc.

Terminology banks are very important in the present times, from the point of view of terminological/conceptual consistency, and in reality are essential in many big translation projects. Consistency must be conserved when translating in group, too. Constructing term banks is frequently an obligatory stage in the translation process in international multilingual translation service corporations.

The Inter-Active Terminology for Europe (IATE) and the EuroTermBank are probably amongst the most prominent and comprehensive terminology banks found on the Internet, both of which cover the majority of European languages. IATE is 'the EU inter-institutional terminology database. IATE has been used in the EU institutions and agencies since summer 2004 for the collection, dissemination and shared management of EU-specific terminology', whereas EuroTermBank 'focuses on harmonisation and consolidation of terminology work in new EU member states, transferring experience from other European Union terminology networks and accumulating competencies and efforts of the accessed countries'[8]. Both are excellent, irreplaceable way to helping optimize the translation work.

Should reader consider exploring the profession of terminologist, here is what Sánchez (2006) recommends:

> '[…] it would be ideal if terminologists could analyze the source text and build a glossary before translating to prevent last-minute terminology changes once the translation process has already begun. In order to do so, terminologists use term-extraction and concordance tools such as WordSmith Tools, TextStat and AntConc. To build glossaries and multilingual terminological databases, the best choice is to use terminology management tools as MultiTerm or TermStar.'

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[8] http://iate.europa.eu/iatediff/about_IATE.html

5.5 Revision

Giuseppe Palumbo defines revision as follows:

> "In a general sense, the term revision refers to a comparative check carried on the TT [target text – Ed. Note] and its respective ST [source text – Ed. Note] in order to identify problems and errors and introduce the necessary corrections or amendments. In the context of professional translation, revision indicates one particular stage in the chain of production of translated documents and can be defined as the process aimed at identifying features of a draft translation that fall short of the required quality standards and at introducing the necessary amendments and corrections." (Palumbo, 2009:101-102)

The subject of revision, as in the context of translation studies, has been quite thoroughly tackled for example by Brian Mossop, in his work of 2001 entitled 'Revising and Editing for translators', where the author gives some useful tips and advice on how revision should be performed, breaking it down into main categories, covering each with exactitude. This work, however, is not intended as a manual for adepts in revision and will certainly not elaborate on the term's evolution in translation studies – it suffices to say that revision must be as old as the process it follows - translation. Instead of reviewing the changes in approach to revision, chasing back its evolution and describing the process in depth – which has already been done, in this work I will focus on the most promising perspectives of revision and look at the drastic change revision has undergone in very recent years. Although revision as such does not directly refer to the subject matter of this work, because it has not emerged with the advent of the Internet, it nevertheless deserves to be addressed here due to the crucial role it is about to play in the future, especially in Europe. My main point of reference here will be the new European norm for translation services – the European Standard EN 15038. Translation services – Service requirements, issued by the European Committee for Standardization (2006).

According to the norm in question, revision is an obligatory stage of the process of translation, and, on top of it, the reviser is not the translator: 'The Translation Service Provider shall ensure that the translation is revised. The reviser shall be a person other than the translator.' In practical terms, this means that the practice of translation revision is highly likely to become more and more frequent. This tendency has been reported by many researchers who cover the topic, for instance Isabelle Robert (2008). Künzli (2007) has also confirmed, through his studies on chosen translators revising legal texts, that 'the demand for translation revision will probably grow rather than diminish'. Mossop (2007) holds a very similar view on this subject:

> "The revision of the work of other translators may become increasingly important, at least in Europe, with the publication in 2006 of the new standard EN 15038 *Translation services – Service requirements*. If this standard is widely taken up, then questions about the nature of other-revision will come more sharply into focus." (Mossop, 2007:43)

Indeed, if the act takes up widely in Europe, the demand for revisers will surely shoot through the roof, to use a colloquialism. In view of such probable scenario, revision may potentially become a new niche in the translation industry, thriving with life and calling for new generations of translators to fill the gap.

Looking at revision from the technical point of view, translators and translators-to-be aiming at switching to/taking up revision as their professional career path, would be wisely-advised to get familiarized with some software available on the market, as well as with certain features they include. Commenting on the various electronic tools for translators available on the market in the XXI century, Pablo Sánchez (2006) recommends:

> "Microsoft Word comes with a built-in proofreading function called "track changes" which lets the user not only make changes to the document that will

require a later acceptance to become permanent, but also to add comments or suggestions. Thus, when the translator gets back the revised version of his/her work, the translator can still consider the modifications made, as well as the comments and suggestions, to decide whether to accept or reject the changes, so the translation remains faithful as well as polished. Nevertheless, most proofreaders have to work with PDF files, so PDF proofreading tools are required […]. Acrobat Professional, apart from creating PDF files, is the leading software for revising the final version of a document thanks to its commenting tools like the Highlight Tool or the Strikethrough Tool among others. […]. Other cheaper alternatives are Foxit Reader, Jaws PDF Editor and Bluebeam Revu." (Sánchez, 2006:3)

As far as universities and their curricula are concerned, perhaps it is time the authorities of translation courses in European universities devoted more attention to revision and its importance in the training of future translators.

5.6 Validation

The concept of validation is very closely related to translation, but is limited in use to software, products and services rather than applied to paper texts or texts in other formats translated into another language. Validation is a quality control process which occurs at the end of the product lifecycle and which is applied to assess whether or not the given product, service or software is compliant with the regulations and specifications imposed at an initial point of a development phase (de facto, when the design of a product is being realized). In many cases, this process is carried out internally within the company or organization.

The process of validation is very similar in its essence to that of revision, although the former is perhaps more complex. Nevertheless, both are used to evaluate the quality of a product. In the era of globalization, where the translation industry has been revolutionized

by computing and software, and where the role such activities as localization play in translators' lives, validation has become a widely-used technique of quality control and should be therefore considered of interest by the community of translators. It is already widely used in highly specialized translation (medication information leaflets) terminology banks, patent registering documentation and legal texts, where delicate semantic differences may constitute considerable losses, should the translation not be totally correct.

For those who wish to learn more about all aspects of validation and stay updated, I recommend they visit the website www.validation-online.net, a comprehensive compilation of documentation on the process of validation, a directory of validation assignments, and a forum lead by experts in validation with years of experience.

6. Results of the Study

This work has looked at various ways in which the advent of the Internet has revolutionized the work of translators. Today's translation market has become very different from what it looked like some 10 years ago – and most of the changes have been brought about by the Internet and other technology. Thanks to the Internet, the translation market is no longer confined to the limits of a given country, it became decentralized and international – this does not only mean higher demand for translators and interpreters, but also a unique opportunity to learn from people and sources from around the world. Translators are no longer isolated from the cultures, the languages, and other translators around the globe, which has significantly contributed to the better quality of translation on the whole. The translation market has also become more dynamic, in that it is constantly changing, thus translators need to be ready to adapt to these changes in order to keep up with the new technologies and software appearing on the market virtually every week. The above mentioned reasons make today's market much more demanding – more competition, constant updating, and also ever-growing demand and amount of data to process makes it difficult to retain a good market position and offer competitive prices. When we combine these new characteristics of the translation market with lower pay rates (especially lately, due to the world's economic crisis), one cannot help wondering whether the profession of translator is worth all the effort at all.

Chapter two of this work has showed that not enough attention is currently being given to the new demands of the translation market. Many university courses in Europe are obsolete and have not yet adapted to the changes that the translation market has been undergoing for some time now. If student translators are to one day become successful, competitive professionals, curricula must encompass much more diversified and specified training. Every country has its own problems to solve at the academic level, but these changes can just as well be introduced at a slow, even pace. As professors seem to be aware of the need for change, they could start to render students more sensitive about how they can use the Internet and the new technology to provide better results. Until universities fully

acknowledge the need for change, and implement it, students in translation courses will be handicapped right from the start of their professional careers.

From all the on-line resources the Internet has to offer a translator, machine translation tools are perhaps the most controversial and the most complex. Their contribution to global cross border communication and to the rapidity of information processing has been enormous. It seems that there is a considerable amount of misconceptions of people in using machine translation tools, although this can be simply and quickly remedied through proper education. Some of us, translators, have already integrated machine translation tools into our professional life, some are still opposed, but nearly the entire translators' community is afraid they might one day be replaced by machines. Such a hypothesis seems unlikely, for humans still have many advantages over computers – we are able to think, to recognize contexts, and to be creative. Nevertheless, further developments in machine translation systems may lead to an increased demand in translators-editors (pre- and post-editors), as opposed to just translators, since there will probably be more need for revision and correction of the translations made by machines.

Web search engines, forums, and dictionaries (and glossaries) are another way in which translators can enhance their work. What has not existed before the Internet became so widely-used, is now a fact, and many translation service providers take advantage of this every day. Chapter three provided a short guide of how can one make the best of search engines, hopefully this will contribute to higher self-awareness and better quality results of translations (sometimes the only way to find the right term is via a search engine). Although studies show that students do not use nor fully understand how dictionaries work, I believe that if proper education is provided, this hole will be completely knitted up soon enough. Moreover, in my opinion, it should be the teachers and professors who should familiarize students with various forums and dictionaries available online.

Chapter four addresses the topics of localization, technical communication and audiovisual translation. All of these domains are here to stay, and all require much more competence and abilities than pure translation. In the era of technology and computers, more and more software, news, advertising and games are localized and translated into foreign markets. To

realize and recognize the extent to which localization, technical communication and audiovisual translation have been rooted in the translation industry nowadays is to understand the potential these areas carry. All those who wish to earn decent fees within the translation industry should seriously consider one of these career paths.

Assuring total quality has always been an important stage in the process of translation. All the translation agencies have separate departments devoted only to revision or validation. Their objective is to make sure translation assignments which leave the agency are of the best quality. In the light of recent events - the norm concerning translation service providers in the European Union stating that all translation work should be revised, increases in demand for just revisers and validation specialists, developments in machine translation systems – suggest that future translators are very likely to become editors and revisers. Therefore, a wise decision would be to ensure proper education and pay due attention to this area of the translation industry.

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9. Appendix 1 – List of Online Dictionaries

1. Babylon-Pro Version: 7.0

Company: Babylon Ltd.

Languages: 40 languages, including: Arabic, Chinese, Dutch, English, Farsi, French, German,

Hebrew, Italian, Japanese, Korean, Polish, Portuguese, Russian, Spanish, Turkish, Ukrainian

Price: free download, from $79 (downloadable)

Source: http://www.babylon.com

2. Context-Online

Company: Smart Link Corporation

Languages: English↔French, English↔German, English↔Italian, English↔Portuguese,

English↔Russian, English↔Serbian, English↔Spanish, French↔German, French↔Italian

Access: http://paralink.com/context/

3. Ergane Version: 8.0

Company: Gerard van Wilgen, Majstro Aplikajoj

Languages: Afrikaans, Albanian, Catalan, Czech, Danish, Dutch, English (Modern and Old English), Esperanto, Faroese, Finnish, French, Frisian, Gaelic (Scottish), German, Greek (Modern), Hungarian, Icelandic, Italian, Japanese, Latin, Malay, Norwegian, Papiamentu, Polish, Portuguese, Romanian, Russian, Spanish, Sranan, Swahili, Swedish, Tagalog, Thai, Turkish, Yucatec, Zulu.

Note: manuals in English, Esperanto and Dutch; translations via Esperanto

Price: freeware, downloadable

Source: http://www.travlang.com/

4. FreeDict

Languages: Afrikaans, Arabic, Czech, Danish, Dutch, English, French, German, Greek, Hungarian, Irish, Italian, Japanese, Latin, Portuguese, Russian, Serbo-Croatian, Slovak, Spanish, Swahili,
Swedish, Turkish, Welsh
Access: http//www.freedict.org
Price: free

5. Internet Dictionary Project

Languages: English↔French, English↔German, English↔Italian, English↔Latin,
English↔Portuguese, English↔Spanish
Note: no additions since 2006
Access: http://www.ilovelanguages.com/IDP/
Price: free, online and downloadable

6. Lexilogos

Languages: many (about 160!)
Access to *Babel Fish, Cimos, Fordito, FreeTranslation, Poltran, Presis, Promt, Reverso, Systran,Translendium, Worldlingo*
Access: http://www.lexilogos.com/dictionnaire_langues.htm
Price: Free

7. Reverso On-Line

Company: Softissimo
Languages: English, French, German, Hebrew, Italian, Japanese, Portuguese, Russian, Spanish
Input: text, webpages

Access: http://dictionary.reverso.net/

Price: free

8. Slovnyk

Company: Valentyn Solomko

Languages: Belorussian, Bulgarian, Croatian, Czech, Danish, Dutch, English, Esperanto, Estonian, Finnish, French, German, Greek, Hungarian, Icelandic, Italian, Latin, Latvian, Lithuanian, Macedonian, Norwegian, Polish, Portuguese, Romanian, Russian, Serbian, Slovak, Slovenian, Spanish, Swedish, Ukrainian

Input: words

Price: free

Access: http://www.slovnyk.org.ua

9. Sprawk

Company: Transmachina AB

Languages: Albanian, Arabic, Belarusian, Bulgarian, Catalan, Chinese, Croatian, Czech, Danish, Dutch, English, Estonian, Finnish, French, German, Greek, Hebrew, Hungarian, Icelandic, Italian, Japanese, Korean, Latvian, Lithuanian, Macedonian, Norwegian, Polish, Portuguese, Romanian, Russian, Slovak, Slovenian, Spanish, Swedish, Thai, Turkish, Ukrainian, Vietnamese

Features: Web-based multilingual dictionary based on WordNet 1.7; entries linked to WordNet senses; includes gender, frequency, etc. and examples.

Access: http://www.sprawk.com

Price: Free browsing, contact company for licensing and subscription

10. WinDi

Company: Language Dynamics Corp.

Languages: Dutch, English, French, German, Italian, Portuguese, Spanish

Requiremenst: Windows95/98/Me/NT4.0/2000/XP

Dictionaries: 3,500,000 words and examples

Features: includes grammatical information; also available on-line service by subscription (http://www.windi7.com/dacc_g.htm)

Source: http://www.windi7.com/index.php

Price: free

11. WordReference

Company: not known

Languages: English↔French, English↔Italian, English↔German, English↔Russian, English↔Spanish

Access: http://www.wordreference.com/index.htm

Price: free