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ATILIM ÜNİVERSİTESİ

SOSYAL BİLİMLER ENSTİTÜSÜ

MÜTERCİM TERCÜMANLIK ANABİLİM DALI

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A COMPARATIVE ANALYSIS OF NEWMARK'S AND VINAY & DARBELNET'S METHODS USED IN MEDICAL TRANSLATION WITHIN THE FRAMEWORK OF SKOPOS THEORY

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Fatma Deniz AKYOL tarafından hazırlanan *"A Comparative Analysis Of Newmark's and Vinay & Darbelnet's Methods Used In Medical Translation Within The Framework Of Skopos Theory"*, başlıklı bu çalışma 07.06.2011 tarihinde yapılan savunma sınavı sonucunda oybirliği ile başarılı bulunarak jürimiz tarafından Mütercim-Tercümanlık Anabilim Dalı Çeviri Bilimi Bilim Dalında Yüksek Lisans Tezi olarak kabul edilmiştir.

Doç. Dr. Asalet ERTEN (Başkan)

B Aksoy

Prof. Dr. N. Berrin AKSOY (Danışman)

Yrd. Doç. Dr. İsmail ERTON (Üye)

INTRODUCTION

All through the history of mankind, medicine and medical translation have existed in the life of human being due to the fact that medicine is one of the best documented fields of science. In all ancient civilizations, medicine was given the utmost importance since there is not another scientific field which is directly related to the human being. Among all translation activities, medicine has a special place, because, medicine and medical translation are the subjects which are necessary for everybody. Medicine deals with restoring and maintaining people's health through various ways of diagnosis, and treatment. Nobody can know when he/she will need medicine but it is an indisputable fact that medicine is a crucial need for everybody and with the development of medical sciences, people have attained a better and longer life. In an interview he gave in 2007, Henry Fischbach who is the co-founder, Charter Member, and Honorary Member of the American Translators Association and is also a prolific author of articles on medical translation, explains as such why medicine has always been of universal interest:

> The human body is the same in Venice, Italy, as it is in Valparaiso, Chile. And, it is probably a subject of paramount interest and concern to man. In addition, unlike oil drilling, which may use a different terminology in Venezuela than in Saudi Arabia, man's anatomy and physiological functions are universally the same. This is another big advantage to the medical translator (Fischbach, in interview with Arroyo, 2007).

Nowadays, with the influence of globalisation and the use of internet, access to information has become easier and the borders have been removed especially in the scientific fields such as medicine. Today, an ordinary person with no, or little background of medical knowledge can easily learn something about the causes, symptoms, treatments, and the names and usages of the drugs related to his/her disease through internet. Even, there are some internet sites that explain the meaning of the findings in your blood or urine analysis.

It should not be forgotten that medicine ows a lot to medical translation, since medical translation greatly contributed to the development of medicine through ages, beginning with the translations of Arab treatises into Latin, and today translation activities continue with an ever increasing mastery due to the training of the competent translators in the field of medicine.

Medical translation is a specific field in translation. It takes part in the field of scientific translation. According to typology made by Katharina Reiss (Reiss, 2000: 171), medical texts are informative texts in terms of text types. Informative texts as medical texts aim at conveying information to the reader. Informative texts give information in a clear way, by means of introducing the subject and then developing it. Accuracy, concision, and clarity are of great importance in informative texts. Hence, medical texts, under the heading of informative texts require special attention in any translation activity and it would be worthwhile to identify the components of medical translation as a first initiative. Medical language, medical genres, the target readers, and the medical text types could be highlighted as the components of medical translation.

Within this context, medical language is a specialized one which consists of medical terms and expressions which are often formed using Greek or Latin roots and affixes. It should always be kept in mind that medical terminology is universal and in order to be able to reach a standardization and unification in medical terminology, it is necessary to work on the prefixes, suffixes and the roots of medical terms.

Medical translators have a broad range of translation work. They can translate research articles, documents like clinical study reports, healthcare products, medical reports, medical charts, X-ray or MRI reports, medical papers, hospital discharge summaries, vaccination cards, insurance claims or others like technical product user guides, promotional literature and press releases, software, research papers, websites, clinical trials, etc.

The target receivers in medical translation vary in a large spectrum, too. Medical communication includes many different participants like; researchers, physicians, surgeons, nurses, carers, patients, family members of the patients, health managers, health policy makers, medical teachers, medical students and so forth. Montalt and Davies taking into consideration all these different participants, deduce that medical knowledge may be formal or informal, specialized or popular, oral or written (2007: 46). Introduction of a new drug, patient histories, research papers, doctors' consultations with the patients, medical questionnaires, application forms filled by the patients, etc. are all in the scope of medical communication.

The most important part of medical activity is that it is for everybody, everybody needs medical communication sometime in his/her life. For this reason, the texts written for these wide range of communication and participants will inevitably be different from each other. Medical text types are classified according to the language used and to the target reader. In this thesis, depending on these criteria, medical texts have been categorized under three headings: Academically written medical texts, professionally written medical texts and popularly written medical texts. In the thesis, four sample texts which belong to these text types and their translations have been examined, and one is translated by means of employing and exploring the translation methods put forward by Vinay and Darbelnet. Then use of the "Direct and Oblique translation methods" have been evaluated according to the medical text types.

The analysis part of this thesis has been carried out within the boundaries of the Skopos theory since the Skopos theory is developed to meet different expectations, intentions and purposes of different participants, that is different target readers of translation. Vermeer (1989b:20 in Nord 1997: 29) defines the Skopos rule as follows:

> Each text is produced for a given purpose and should serve this purpose. Translate/interpret/speak/write in a way that enables your text/translation to

> function in the situation in which it is used and with the people who want to use it and precisely in the way they want it to function.

Consequently, the aim of this thesis is to probe into the medical translation methods that stand on a theoretical framework and to see how they operate in the process of translation. In order to achieve this aim, the thesis has been built on five chapters:

Chapter I attempts to show the development of medical translation in the world and in Turkey from a historical point of view in order to exhibit the stages of medical translation from the first clay tablets written in cuneiform symbols till today.

Chapter II attempts to introduce medical texts as text types and to give information about the characteristics of medical English, medical expressions and usages in order to be able to draw the linguistic and semantic map of the medical translation.

Chapter III sets the medical translation on the basis of the Skopos theory dealing with the analysis of the parties and their communicative purposes in the translation process.

Chapter IV gives the classification of medical text types and the translation methods, hence prepares the suitable way to choose the right translation method/methods according to both text type and the target reader in line with the Skopos theory and then exemplifies the use of different translation methods on different types of four sample texts.

Chapter V introduces the translation problems and deals with the solutions to these problems while emphasizing the importance of the background medical knowledge of the translator. Consequently, an overview of this study is presented with the evaluation of the methods used in the sample texts within the framework of the Skopos theory with the hope of paving the way to the future researchers.

CHAPTER I: MEDICAL TRANSLATION IN TURKEY AND IN THE WORLD

1.1. HISTORY OF MEDICAL TRANSLATION

> Medical translation is the most universal and oldest field of scientific translation because of the homogeneous ubiquity of the human body (the same in Montreal, Mombasa and Manila) and the venerable history of medicine (Fischbach, 1986:16).

Translation has existed ever since human beings existed. As soon as man noticed the need for communicating with the others, translation began. The most remote examples of written translation go back to the old cities of Ancient Mesopotamia. Archaeologists found clay tablets on which medical, chemical, mathematical, and astrological knowledge were written in cuneiform symbols. The languages used in these tablets were different: Ugaritic, Akkadian, Sumerian, Hittite and Hurrian. All these findings point out that before mankind invented the paper and the alphabet, translation activity had already started (Montalt and Davies, 2007: 15).

Since prehistoric times, medicine has a special place in translation activities because it concerns all human beings, their personalities, their bodies, their lives, and even their souls. That's why, medical translation is one of the oldest and the broadest fields of translation. Referring to the historical importance of medical translation Van Hoof says that:

> Avec la traduction religieuse, la traduction médicale est probablement une des branches les plus anciennes de l'activité traduisante: les souffrances de l'âme et du corps ont toujours été au centre des préoccupations de l'homme. Le plus ancien des documents serait le Corpus Hippocraticum, une compilation des enseignements d'Hippocrate faite au IIe siècle avant notre ère par des médecins grecs d'Alexandrie (Van Hoof, 1993: 19 :1).
>
> (Together with religious translation, medical translation is probably one of the oldest branches of the translating activity: The suffering of the soul and the body always became in the centre of the preoccupations of the human beings. The oldest of medical documents was The Corpus Hippocraticum, a compilation of the teachings of Hippocrates which was made in the second BC by the Greek physicians of Alexandria.) (translated by Akyol)

In an interview made by Bokor and published in Panace, Henry Fischbach who is the co-founder, Charter Member, and Honorary Member of the American Translators Association and is also a prolific author of articles on medical translation and a frequent moderator of and panelist at sessions on medical and scientific translation answers the question of why he decided on medical translation as follows (Bokor, 2008):

> Why does the field of medicine offer so many sources of information? For example, if you are confronted with a translation on oil deposits, how many friends or acquaintances do you have who are petroleum engineers? As to medicine, almost everyone knows a physician, right? When he is not a physician himself, the translator must constantly compensate with research and checking. You cannot assume that the prefix “cardio” always relates to the heart. Opening up a textbook of anatomy, you find that this term may also refer to the cardiac orifice of the stomach, or, according to some anatomy books, to the prestomach. Those are the questions a doctor can help you resolve. Another reason why medical problems are more readily solvable than other terminological conundra is that libraries are well stocked with medical references. The medical field has always been well documented, even before there was easy Internet access to the Academy of Medicine. So, either you knew a physician or librarian who didn’t mind helping you out to solve your questions or guide you in the right direction.
>
> There also exists a plethora of medical dictionaries and specialized texts in most languages. The reason is that medicine has always been of universal interest. The human body is the same in Venice, Italy, as it is in Valparaiso, Chile. And, it is probably a subject of paramount interest and concern to man In addition, unlike oil drilling, which may use a different terminology in Venezuela than in Saudi Arabia, man’s anatomy and physiological functions are universally the same. This is another big advantage to the medical translator. An interest in the subject and the availability of multiple sources—and remember that I did not have a formal medical education—compelled me to constantly do a great deal of research and checking, an absolute necessity if mistranslation is to be avoided. After a while, a nugget of knowledge led to further research and a broadening of knowledge. You soon learn, for example, that the “cardia” may have nothing to do with the heart.

An incontrovertible fact about medical translation is its great contribution to the advancement of the field of medicine. The early translation efforts and especially the translation of early medical treatises mostly from Arabic into Latin which were materialized by the scholars of that time generated the first scientific steps of medical translation.

1.1.1. HISTORICAL OVERVIEW OF MEDICAL TRANSLATION IN THE WORLD

In translation studies research, examining the historical background of the subject matter enables one to draw a complete picture of the research and to carry out a comprehensive study within theoretical boundaries. Hence this study attempts at creating a holistic view of medical translation by means of developing the subject matter through a historical perspective.

In the 5th century, Hippocrates, who is known as the founder of medicine, wrote a book called *The Corpus Hippocraticum*. His book contained a remarkable amount of knowledge inherited from the earlier civilizations. He opened a school of medicine and taught the basic branches of medicine like anatomy, physiology, pathology besides medical ethics.

Later, we see Alexandria on the stage of medicine. Alexandria was a mixture of different cultures and languages. It had a rich museum and library which contained lots of medical works and books. There were the good examples of veterinary research and the scholars tried to classify the animal kinds in the zoological garden in Alexandria. The scholars also examined the plants, classified them and investigated the possible healing power of these plants (Montalt and Davies, 2007: 15-16).

Nearly a century later, Pergamon, a Greek city in Asia Minor took its place as an important centre of medicine and science. The works of the scholars of both Alexandria and Pergamon were in Greek. Therefore, it was necessary to translate all these documents first to Latin and then to Arabic and Hebrew. Galen who was the most famous personality of Greek medicine and who also was a proponent of Hippocrates wrote hundreds of medical works and in the 9th century, at the House of Wisdom in Baghdad most of his works were translated into Arabic.

At the beginning of the first century, while Greek was still the language of science and medicine, Aulus Cornelius Celsus, who was an aristocrat from

Narbonensis wrote a medical encyclopaedia based on Greek sources. He is also known as Cicero medicorum (the Cicero of doctors) because of his fluency in Latin (Montalt and Davies, 2007: 16).

While expressing Cicero´s contributions to the language of medicine, Wulff arrives at the following conclusion:

> Celsus faced the difficulty that most Greek medical terms had no Latin equivalents, and the manner in which he solved this problem is of considerable interest from a linguistic point of view. First, he imported a few Greek terms directly, even preserving their Greek grammatical endings. He included, for instance, the Greek words pyloros (now pylorus) and eileos (now ileus), written with Greek letters in his Latin text. Secondly, he latinized Greek words, writing them with Latin letters and replacing Greek endings by Latin ones—e.g. stomachus and brachium. Thirdly, and most importantly, he retained the vivid imagery of the Greek anatomical terminology by translating Greek terms into Latin, such as dentes canini from Greek kynodontes (dog teeth) and caecum from Greek to typhlon (the blind [gut]). Thus, we can still enjoy the old Greek tradition of likening the shape of anatomical structures to, for instance, musical instruments (e.g. tuba=trumpet, tibia= flute), armour (thorax=breastplate, galea=helmet), tools (fibula=needle, falx=sickle), plants (uvea=grape, glans= acorn) and animals (helix=snail, concha=mussel, musculus= mouse, tragus=goat so named because that part of the external ear may be covered with hair, resembling the tuft on a goat's chin). Some of these words are the original Greek ones, while others are Latin equivalents introduced by Celsus and his successors (2004: 187–188).

These translations led Arab scholars to produce their own work and this made a great contribution to the development of medicine. During the Middle Ages, Arabic emerged as the third medical language after Greek and Latin. In Baghdad, in order to translate the manuscripts of Alexandria and Pergamon to Arabic, a school of translators was founded, too.

Segura quotes that in Spain, in the 8th and 9th centuries A.D. the Arab invaders brought with them a treasure of medical and scientific knowledge, gleaned from translations done at their Baghdad House of Wisdom (1999: Volume 3, No. 3).

The School of Toledo opened (1125-52) by the help of the cooperation of Islamic, Christian, and Jewish scholars. There, some physicians such as

Ibn-Rushd, Maimonides and Ibn-Sina, who wrote a medical textbook called the *Canon Medicinae* which was studied and consulted in medical schools up to the 18th century having been printed thirty five times and accepted as the Bible of Medicine, translated the works by Aristotle (384-322 BC), Archimedes (287-212 BC), Pythagoras (569-475 BC) and Hippocrates (460-377 BC) (Montalt and Davies, 2007: 16).

> At Toledo, The procedure for translating medical, scientific and philosophical treatises, was as follows: A Jew who knew both Hebrew and Arabic first translated orally from these languages into Spanish Romance, the precursor of what later became Castilian Spanish. The Romance version was then translated into Latin by a Christian, to be disseminated throughout Europe. Among the translators who worked at Toledo were Spaniards, Gascons, Frenchmen, Italians, Englishmen and Germans. Following Spain's discovery and colonization of the New World in the 15th century, a number of signal achievements were recorded in the fields of medicine, astronomy, mathematics, navigation, botany, and mining technology. In medicine, Miguel Servet discovered the pulmonary circulation; Andrés Laguna first described the ileocecal valve; cinchona (quinine) was discovered by Spaniards in Peru as a remedy for malaria; and Gaspar Casal identified the "illness of the rose", later known as pellagra. It is interesting to note that many of these discoveries were first reported in Spanish and then translated into English and other European languages, only to be retranslated into Spanish in recent times by people who apparently were not aware of the original discoverers (Segura, 1999: Volume 3, No. 3).

During the Middle Ages, medical treatises and works were mostly kept and saved in monastic libraries and monks undertook the role of curing the patients. They owed their medical knowledge and medicinal remedies to the accumulated wisdom of the centuries via translations. Translation scholars Montalt and Davies make the following comment on these activities as such:

> Were these literal translations? Or were they fairly free and selective adaptations? This dichotomy between strictly literal and freely adapted translations was in fact mentioned by Cicero, whose defence of translating non verbum de verbo, sed sensum exprimere de sensu (not word for word, but sense for sense) was expounded in his work. De optimo genere oratorum(46 BC). His division has carried over into discussions about translation to the present day. That translation mattered in Ancient Rome is testified to the fact that the Emperor Augustus employed translators on a regular basis. Medicine was a highly respected discipline at that time and medical translators abounded, working mostly from Greek into Latin. They favoured a literal approach to translation at odds with that of Cicero, whose

> freer approach was favoured by mediveal translators (Montalt, Davies, 2007: 16-17).

In the middle ages, taking the Bible to the centre of translation, literal translation was adopted. Because Bible was God's direct words to the human beings, so interpreting what he said was unacceptable.

During Renaissance, Latin was lingua franca for both literature and science. Greek lost its importance as the language of medicine since it was no longer understood and the era of Latin in medicine started. Translations were bidirectional; between the mother tongues and Latin, and from one mother tongue to another.

Following the fifteenth century, due to the rise of nation states, Latin began to lose its superiority against other languages and translation gained a more important role.

And finally, while Latin as the language of science and translation was disappearing around the middle of the eighteenth century, national medical languages like medical English, medical German, etc. appeared on the stage of medicine.

When we come to the twentieth century, new approaches to translation gave a new form to the field of medical translation as in other fields of science. Interpreting the original message and taking the target language receiver into consideration drew the borders of translation. Montalt and Davies explain the situation in the 20th century as such:

> The fact that over the last two centuries English has become the new lingua franca of distribution does not necessarily mean that it is the only language of production. Biomedical researchers all over the world writing in many different languages try to get their work accepted by international journals published in English through translations. Legal requirements for documentation of medicinal products in the European Union as well as the general trend towards internationalization have also increased the need for translation. In addition, there are bilingual editions of medical journals along with monolingual publications in all languages. Thus the existence of a lingua franca does not necessarily reduce the amount of translation. Most

> professional translation in the field of medicine or related areas involves English either as a source language or as a target language (Montalt and Davies, 2007:18).

According to Wulff, today, all the most influential medical journals are written in English, and English has become the “lingua franca” in all international conferences. English has been chosen a single language for international medical communication. Although, during the medical history new medical terms were derived from Greek or Latin roots, today the medical terminolgy is partly or wholly, composed of words borrowed from ordinary English like bypass, screening, scanning, etc. and doctors from non-English-speaking countries either borrow these English terms directly or translate them into their own language (Wulff, 2004: 187–188).

In today’s world, medical translation is needed in international and local conferences, seminars and congresses, in medical course books, reports, abstracts, articles, manuals, prospectus, laws for patient rights and laws for producing new medicine. Our ever globalizing world needs medical translation much more than in the past.

1.1.2. HISTORICAL OVERVIEW OF MEDICAL TRANSLATION IN TURKEY

The nineteenth century, became a period of change, modernization and transformation in all fields in the Ottoman Empire. During this century, the Ottoman Empire started to turn its face to the West and to adopt the western science. The cornerstone of this transformation was the declaration of “Rescript of Gülhane” in 1839. Modernization attempts beginning with the declaration of “Rescript of Gülhane” showed its effects on the medical education, too. The chief physician (Hekimbaşı) of the time Mustafa Behçet Efendi knew the necessity of modernization in medical education, so he translated the works of the scientists like Buffon, Plenck and Marshall on

variola, syphilis and nature history into Turkish and published them. Another doctor, scientist and historian of the time, Şânizâde Mehmed Ataullah Efendi made medical translations, too, and by this way, he brought the modern method of smallpox vaccine of Edward Jenner to Turkey and wrote books of anatomy, physiology, diagnosis and treatment through translation.

With the opening of the Galatasaray School of Medicine(Mekteb-i Tıbbiye-i Adliye-i Şâhâne) in 1839, preparatory education for the students of medicine started. Preparatory class students had to learn Turkish, Arabic and French. In the department of "Medical Sciences", the language of education was French. In the second half of the nineteenth century, one of the innovations in medicine is the publication of two scientific medical magazines in both Turkish (Vakayi-i Tıbbiye) and French (Gazette Médicale de Constantinople) in the school's printing house. There were translations from foreign medical magazines in them (Ulman, 2006: Vol. 48).

Ulman who is an academician works on the Turkish medical history, quotes that in 1850s, the most important step in the Turkish medicine is the attempts for turning the medical education language from French to Turkish. The minister of the School of Medicine Cemaleddin Efendi believed that the language of medical education had to be Turkish. For this reason, he opened a special class of Turkish, Arabic and Persian. Doctors like Dr. Kırımlı Aziz Bey, Dr. Bekir Sıtkı and Dr. Mehmed Emin Fehmi prepared many medical books and dictionaries through translation and compilation in order to form a Turkish medical literature. In 1867, the first school of medicine providing medical education in Turkish, Mekteb-i Tıbbiye-i Mülkiye was opened. In 1870, the educational language in the Military School of Medicine became Turkish and (2006: Vol.48) till the foundation of the Republic of Turkey, these attempts of modernization and turning the language of medical education into Turkish continued. In 1933, Mustafa Kemal Atatürk enacted a university reform and the civilian and military schools of medicine which were combined in 1895 became "Faculty of Medicine". During the first years of the young republic, on Atatürk's instruction, a lot of young Turkish scientists were sent

to Europe for education, and a lot of foreign scientists were invited to Turkey to teach in the Turkish schools and universities. Through this way, translations and the attempts to form a Medical Literature in Turkish gained speed. These activities will later be explained in detail in the following part of this thesis titled “The Turkish Medicine in The Republic of Turkey”.

1.1.2.1.TURKISH MEDICINE BEFORE ISLAM

According to Bayat, who is an internist professor, the author and researcher of Turkish medical history, it is not possible to talk about a scientific medical approach in Turkish nomadic tribes living in the steps of Central Asia till the emergence of the Uighur State. Nature and soil had an important role in the lives of these nomadic Turks. Our ancestors were trying to cure the patients with the natural treatment formulas of shamans and herbalists (Bayat, 2003: 203).

Although Huns and Gokturks adopted the same herbal drugs and healing methods, we assume that they attached much more importance to public health and hygine and they tried to wear suitable and protective clothes according to the hard climate conditions of the Central Asian steps.

When we come to the era of the Uighur State, we see that they did not content themselves only with the old methods and drugs. No doubt that the traditions and the beliefs of the people were still of much importance in the field of medicine, but they also made use of the medical knowledge of the Chinese and Hindu people of that time via translation. “Kumiss” which was accepted as a heavenly drink and used for medical treatment by Huns and Gokturks was widely used by Uighurs, too for curing many diseases. Ünver who was the founder of the İstanbul University Institute of Medical History cites in his book that Uighurs had a different concept of medical treatment when compared with the Chinese and Indian medicine. They used fruits, vegetables and herbs for curing the diseases. Most of these were grown in

Uighur's country, and others were imported from China and India (Ünver, 1936: 21).

After immigrating to Anatolia, Ghuzz Turks learned Arabic, Persian and Greek medicine and started to form the new Turkish Medicine. In order to materialize this aim, they translated Arabic, Persian and Greek medical books into Turkish. Among these translations, *Tıbb-ı Nebevi* written in Arabic by Ebu Naim had an important place. Not containing any magic or spell of the Turkish medicine is one of the significant points of this period. The medical books of the period were completely made up of scientific elements.

1.1.2.2. TURKISH MEDICINE AFTER ISLAM-THE SELJUK STATE

Bayat who made detailed researches on Turkish medicine reports that the scientific and the civil life in The Great Seljuks go along with the Islamic civilization. In their era, medical scientists like Ibn Sina and Biruni wrote their works in Arabic, since Arabic was the language of science at that time. Although they were born in Turkish States, they were attributed to other muslim nations too. The reason of this is not being aware of the notion of nationality at that time. It must also be added that the scientists of the era were able to travel freely and to settle whereever they were hosted and appreciated best (Bayat, 2006:1).

In the Seljuk era, the science of medicine gradually developed. They built many hospitals all through Anatolia. In Mardin, Kayseri, Sivas, Divriği, Konya, Aksaray, Çankırı, Kastamonu, Tokat and Amasya. These hospitals treated people free of charge. All these hositals were at the same time medical education and practice centers for the physicians.

The Seljuks also created field hospitals for the military, where doctors, medical personnel, wounded, medicines, and medical supplies were carried by camels. Herbal stores making and selling medicines were called "attar". These medicines were prepared by the help of the medical books and the

plants of Anatolia were used in making them. The rest of the necessary raw material was obtained from India and other Muslim countries by the way of the Spice and Silk Roads (Bayat, 2006:12).

According to Yoska, medicine in Seljuks influenced Europe in many ways. Both the medical methods used and the way that these methods practised, medical education and the architectural characteristics of the Seljuk medical buildings and hospitals were transferred to Europe through the crusades. It shouldn't be forgotten that in a period when mentally ill people were burnt in Europe, Seljuks cured these people with the help of music (2005: 211).

Yoska goes on to say that with Seljuks, medical practice turned into Turkish and for the first time, medical works and books were began to be produced in Turkish and this was a milestone for the Turkish medical history. Hekim Bereke who wrote a book titled *Tuffei- Mübarizi* translated his own book from Arabic to Turkish and this translation gave way to the translations of other medical books and works into Turkish. This became one of the most important events of the Turkish medical history (2005: 217).

1.1.2.3. TURKISH MEDICINE IN THE OTTOMANS

According to Nil Sarı, the professor of the Department of Deontology and Medical History of İstanbul Cerrahpaşa Faculty of Medicine, the Ottomans gave special importance to the science of medicine and developed special methods of medical training. At that time the term "tabîb" were used for the specialists of internal diseases, and also there were surgeons, ophthalmologists, orthopaedists, syrup preparers, and herbalists. All of them were responsible for the public health and Ottomans trained and educated them differently (2005:1):

> Ottomans carried on the good tradition, building new hospitals, in addition to the old ones of the Seljuks. One of these was the Bursa Hospital (1399), a part of the Sultan Yildirim complex where physicians were trained at the "dâral-tib" (school of medicine). There was a school room in the hospital and a teacher who was a physician. It was the first hospital built by the Ottomans. As a continuation of the Islamic tradition, just as in the Seljuk period, in the Ottoman period, theoretical and practical medical sciences were taught in the hospitals. Until the mid nineteenth century, physicians were trained at hospitals that also served as medical schools (Sarı, 2005: 3).

All candidates who wanted to be a physician had to graduate from classical madrasa in order to get all the necessary qualifications before starting to medical education. They had to learn both Arabic and Persian. They were also expected to get the knowledge of all other sciences. After all this education, they got a certificate to become a physician. Medical education was like a master-apprentice relationship. The chief physician (Hekimbaşı) was responsible for both health affairs of the Ottoman Empire and also for medical education.

From time to time, decrees were issued in order to distinguish the quacks from the competent physicians, surgeons, ophthalmologists and herbalists. The ones who were found efficient got a certificate and the ones who failed were forbidden to practice. Sarı quotes that the specialists were examined in their field by the head-physician of the day and the certificates of the successful ones sealed by the head-physician and hence they got the licence to practice medicine, while the ones who practised medicine without studying medical science with a great master and without learning the medical art from skillful physicians were forbidden from practice and punished (2005:13).

Feza Günergun, who is one of the scholars working on the history of science, expresses that in the middle of 1800s, the movement of nationalism influencing over all Europe affected the Otoman Empire inevitably. Under the influence of the movement of nationalism, and together with the reforms in the field of administration, education, science, technology, etc, an attempt for giving the medical education in Turkish began. At that time, medical

education in the Military Medical School was in French and this was a handicap for the medical students. The young physicians of the time aimed at making Turkish the language of science. In order to achieve this, they decided to prepare a French-Turkish medical dictionary. While trying to translate Pierre-Hubert Nysten's dictionary into Turkish, they studied the old Ottoman medical treatises and books to find the correct equivalents of French medical terms. They published the dictionary in İstanbul in 1873.The name of the dictionary was Lugat-ı Tıbbiye (Günergun, 2003: 3).

> Beside translating the dictionary, Turkish doctors also published texts on history of medicine and related sciences. The 68-page introduction to Kimya-i Tıbbi (Medical Chemistry, 1869) by Dr. Kırımlı Aziz (1840-1878), an active member of the group, can be regarded as an early Turkish text on history of chemistry (2003: 2).
>
> In 1887, Dr. Hüseyin Remzi (1839-1896), one of the supporters of medical teaching in Turkish, published the Tarih-i Tib (Istanbul, 1887) dealing with medical history from ancient civilisations up to Galen's time. This volume, translated from Pierre Victor Renouard's (born 1789) Histoire de la médecine depuis son origine jusqu'à XIXième siècle (Paris 1846) can be considered among the early medical history books issued in Turkish. Although Dr. Remzi planned to compile a three volume work, including chapters on the history of Turkish and Islamic medical sciences, the remaining two volumes were never issued (2003: 3).

1.1.2.4. TURKISH MEDICINE IN THE REPUBLIC OF TURKEY

After the foundation of The Republic of Turkey in 1923, Mustafa Kemal Atatürk made reforms in the field of health. The country was in ruin and there was only one medical school, 554 doctors in total and a woefully inadequate healthcare. Epidemic diseases like respiratory tuberculosis, trachoma, and the highly prevalent malaria were very common and widespread. The most common health problem in Anatolia following the "War of Independence" was epidemic diseases. For this reason Atatürk's public health policy mainly focused on "preventive medicine". In order to rebuild the country after decades of devastating war, the government's priority was on the eradication of epidemic diseases. The greatest handicap on this matter was the shortage of trained healthcare personnel. At this point, Berna Arda, who is a scholar

working on deontology, finds necessary to mention the efforts and work of Dr Refik Saydam who was one of the individuals accompanied Mustafa Kemal on the way to Samsun to begin “The War of Independence”. After the foundation of the republic, he served as the Minister of Health for five terms. Dr. Refik Saydam led the establishment of “the Public Hygiene Institute” in Ankara in 1928. He also encouraged the domestic production of vaccines and supported the campaign for preventive medicine (Arda, 2009: 11).

Arda quotes that in the field of health, another prominent figure of the young Republic was Dr. Hulusi Behçet who was a 1910 graduate of the Military Medical Academy. His specialization was in dermatology. After persuing his studies in Budapest and Berlin, he was appointed as a professor at Istanbul University’s Faculty of Medicine Department of Dermatology and Venereal Diseases in 1933. A chronic syndrome with the symptoms like nonhealing mouth sores, genital ulcerations and eye inflammations were identified by Dr. Behçet and his name was given formally to the disease at the International Congress of Dermatology in Geneva in September 1947.

In 1933, Mustafa Kemal Atatürk launched a great reform in Turkish universities. Academicians fleeing from Nazi Germany were invited to Turkey by Atatürk to work in the universities of the young republic and to teach the Turkish academicians. Through this reform, 42 foreign scientists took up posts in the universities in Ankara and İstanbul, among them there were doctors, too. Professor-in-ordinary Erich Frank, was one of them. After coming to Turkey in 1933, he worked in İstanbul University and made great contributions to the development of both the Turkish medicine and the Turkish health professionals. His words related to Turkey is very remarkable: “When I was robbed of my citizenship and left homeless, only Turkey received me with open arms. Turkey is my homeland.” (2009: 11).

Günergun writes the following related to the Turkish medicine in the Republic era:

> In the second decade of the twentieth century, studies on medical history focused especially on the history of Turkish medicine. The leading idea was to prove that Turks practiced medicine and produced medical works throughout their history. Physicians such as Osman Sevki Uludag (1889-1964) and Galip Ata [Ataç] (1879-1947) wrote with the purpose of refuting European views claiming that Turks were enemies of science, and revealed Turkish contributions to Islamic science. This attitude which was influenced by the cultural policy of the new Turkish Republic (founded in 1923) will last for many years, at least until mid 20th century (2003:4).

One of the leading personality of the Republic period was Dr. Süheyl Ünver. He established the first chair of Medical History in Turkey. He wrote the books *Medicine of the Uygurs* (1936) and *History of Seljuk Medicine* (1943). In all his works, he tried to prove the role and the contribution of the Turks to the development of world science and medicine.

Another prominent person in the field of Turkish medical history was Feridun Nafiz Uzluk. In 1946, he was appointed to the Medical Faculty of Ankara University and formed a Medical History Library of 15000 books and manuscripts there. Günergun's account of Uzluk is as follows:

> Uzluk not only published on Turkish and Islamic physicians and their works, but undertook the translation of several (more than 30) books on medical history from French and German. He could, however, publish three of them. He also rendered into Turkish a few treatises by Rhazes and Ibn un-Nefis, using their translations in European languages. Uzluk, on the other hand, published several books on the history of Anatolian Seljuks and the Sufi poems in the printing house he had established in 1940. The printing house had also issued a popular book on Islamic catechism. The change in State's cultural policy in 1940s after the death of Atatürk and the understanding favoring European literature, did not rescue Uzluk's printing house which was destroyed together with other buildings during the town planning works in Ankara. Ünver and Uzluk examined the Turkish, Arabic and Persian manuscripts on various sciences, which were kept in the national libraries at Paris, London, Munich and Vienna. The driving force of the two medical historians was to prove that Turks did contribute to science and that their scientific activities started long before 19th century when foreign specialists were invited to reform the medical institutions (2003: 13).

They were not only doctors or medical historians, but also were medical translators. Thanks to them that the medical researchers of today have many resources translated and published by them and also many archival resources collected by them.

CHAPTER II: THE CHARACTERISTICS OF MEDICAL ENGLISH AND MEDICAL TEXTS

2.1. MEDICAL TEXTS AS TEXT TYPES

Before finding a place for medical texts among text types, it will be useful to dwell on the text types in general. German linguist and translation scholar Katharina Reiss worked on text types, and her work made great contributions to the contemporary translation theories. Just like Bühler, Reiss defines three text types:

a. The communication of content- informative type

b. The communication of artistically organized content- expressive type

c. The communication of content with a persuasive character- operative type

Reiss points out that informative texts should be translated in plain prose and expansions and explanations should be given when necessary. On the other hand, while translating an expressive text, the translator should establish empathy with the author of the source text. Operative texts should be translated adaptively in line with the intention of the target reader (Reiss, 2000: 171).

Bühler's functional typology consists of three text types: expressive, informative and vocative. Reiss accepts them all, but she adds a fourth text type to the typology made by Bühler. This text type is audio-medial texts and they should be translated by supplementing what is expressed by the pictures, music, etc. (Reiss, 2000:173).

According to the text types typology made by Reiss, medical texts take part in the group of informative texts which will be the subject matter of this thesis.

2.1.1. MEDICAL TEXTS AS INFORMATIVE TEXTS

Nowadays, medical translation is needed in international and local conferences, seminars and congresses, in medical course books, reports, abstracts, articles, manuals, prospectus, laws for patient rights and laws for producing new medicine. It can easily be seen that medical translation exists everywhere in our lives.

Medical translation is a specific field in translation and medical texts are informative in terms of text types. Hence, it is necessary to define what an informative text is. An informative text is designed to convey facts and data. Informative texts are created to transfer knowledge to people who would like to learn something in a particular field. These texts use words that:

- are descriptive
- are precise and to the point
- relate to the subject
- are in the present tense

Informative texts contain facts, give information in a clear way, as introducing the subject and then developing it. They are concerned with any topic of knowledge and often have standard formats: a textbook, a technical report, a scientific paper, or agenda of a meeting.

Another aspect of medical texts is their being scientific. Readers of the scientific texts go after the information, they do not read for pleasure. The core of scientific and informative texts is accuracy and clarity. Scientific words are different from ordinary and literary words, because they are not simply words, but terms, so they do not include connotations, they have one single meaning.

Under the light of the information above, it is possible to put the medical translation under the heading of “Scientific Translation”. All kinds of texts in the field of science can be classified under this title. There are three

prerequisites for scientific translation. These are Clarity, Concision, and Accuracy. In his book named *An Approach To Technical Translation*, Finch who is one of the first translation scholars dealing with technical translation and who defends that technical translation is less difficult than the translation of literary works, defines the qualities of scientific translation as follows:

> 1. Scientific texts are intended to be read by scientists and so are scientific translations.
>
> 2. A scientific translation is usually made from a recent original work, intended to be read immediately unlike literary translations which may be made from classical texts and used for centuries.
>
> 3. It is rare for more than one version of a scientific translation to be made. When this occurs it indicates a failure of communication since a second version is unlikely to contribute any further significant information if the first has been satisfactory (Finch, 1969: 4).

It must also be pointed out that like all scientific texts, medical texts, too, use prefixes, suffixes, and roots of Greek and Latin, so the language used can be called as “hybrid” . The terms used in medicine do not differ according to the context, because, these terms have all one single meaning, so it is not possible to mention a hidden meaning and objectivity is the most important characteristics of medical texts.

Erten who is one of the translation scholars examining and working on technical and medical translation besides her studies in the other fields of translation and who is the author of the book titled *Medical Terminology and Translation of Medical Texts* expresses the characteristics of technical translation as such:

> “Since the purpose of technical texts is to convey information expressed by the scientist it is possible to produce an accurate translated text. In other words, to produce another text that achieves the same aim in the target language as does the source text in the source language is quite possible. Hence the translator of technical texts should convey to the reader of the target language the translation of the information which the source language intended to convey. Technical language is usually free from emotive language, connotations, sound-effects and figures of speech when properly used (Erten,1997:19).

Erten proposes the following ideas to overcome challenges in the translation of scientific texts:

> If the language of the source text is obscure, the translator then must attempt to make his own text clear. If the source language text is open to doubts deliberately the translator must make it clear that such doubts exist. At this point, the question that the translator should ask himself can be: What does the source language text intend to say? How has the scientist expressed himself? The translator then has to make decisions as how to express the same sentences and phrases within the target language. In this context he becomes a creative author since it may be necessary to take some liberties with the source text (1997:19).

However she makes a distinction on the concept of “creativity” in medical and literary translations by saying that; “ But this creativity is not in the manner it is observed in literary texts or in the manner that free translation requires (1997:19).

2.2. MEDICAL EXPRESSIONS AND USAGES

> Medical words exhibit a rich and productive morphology. In French or English, as well as in many other European languages, they are often formed using Greek or Latin roots and affixes. The decomposition of a word into its component morphemes is useful to get at its elementary meaning units. This is a key to more relevant and more principled semantic processing of medical utterances. In an even simpler way, this allows finer grained indexing of medical texts and terms, and potentially better accuracy for information retrieval and coding assistants (Zweigenbaum and Grabar, 1999: 1).

In order to be able to reach a standardization and unification in medical terminology, it is necessary to explore the prefixes, suffixes and the roots of medical terms. In medical language, the basic and the smallest unit of meaning is a morpheme. There are more than five hundred prefixes, suffixes and roots forming the basic medical terminology. When it is considered that all languages use the term combinations derived from these prefixes, suffixes and roots, this will make roughly thousands of medical terms.

The following list contains roots, suffixes, and prefixes used in medical terminology, their meanings, and their etymology. There are a few rules when using medical roots. Firstly, prefixes and suffixes, primarily in Greek, but also in Latin, have a droppable -o-. As a general rule, this -o- almost always acts as a joint-stem to connect two consonantal roots, e.g. arthr- + -o- + logy = arthrology. But generally, the -o- is dropped when connecting to a vowel-stem; e.g. arthr- + itis = arthritis, instead of arthr-o-itis. Secondly, medical roots generally go together according to language: Greek prefixes go with Greek suffixes and Latin prefixes with Latin suffixes. Although it is technically considered acceptable to create hybrid words, it is strongly preferred to not mix different lingual roots.

2.2.1. PREFIXES AND SUFFIXES USED IN MEDICAL TERMS

The prefix is a part that comes before the main part of a word. If the prefix is recognized, the definition of the word will be able to be guessed more easily and accuretely. In medicine, the prefixes can be classified under three categories: Prefixes of position, prefixes of description and prefixes of number and measurement. Here are some examples of medical prefixes and their meanings (Glys and Wedding, 2009: 13-29):

Prefixes of position:

Schiz(o) means “split”.

Schizonychia -splitting of the nails

Schizophrenia-personality disorder, withdrawal from outside world

Post(o) means “after”, “behind”.

Postanaesthetic- after anaesthetic

Postnasal- posterior of the nasal cavity

Anti(o), contra(o) means “against”.

Antitoxic -neutralizing the action of a poison

Contraception-prevention of conception or pregnancy

Prefixes of description:

Erythr(o) means “red”.

Erythrocyte - red blood cell

Orth(o) means “straight, normal”.

Orthodontist -a dentist who is a specialist in the branch of dentistry concerned with irregularities of teeth and malocclusion

Tachy means “fast”.

Tachycardia -abnormally rapid heart rate

Prefixes of number and measurement:

Poly(o) means “many, excess”.

Polyplegia -paralysis of several muscles

Hyp(o) means “few, under”.

Hypodermic -applied below the skin

Amphi means “both, double”.

Amphibolic - having both an anabolic and catabolic function.

A suffix follows the end of a word and forms a new word. In medical terminology, a suffix provides important clues about a word's definition. For instance, the suffix, 'pathy', means disease. In most cases when you see a word ending in 'pathy', you know it refers to a disease, as in the word 'angiopathy', which means disease of the blood vessels.

Some suffixes show the disease or the change in the body. For example:

-itis means" inflammation".

Hepatitis is the inflammation of the liver caused by a virus or a toxin.

-sclerosis means "hardening ".

Arteriosclerosis is the hardening of the arteries -- is the leading cause of heart attacks, stroke, and peripheral vascular disease.

Some suffixes are used for diagnoses. For example:

-gram means "record of data".

Encephalogram is a graphical record of electrical activity of the brain; produced by an electroencephalograph.

-scopy means "examination of".

Laparoscopy is the direct visualization of the peritoneal cavity, ovaries, outside of the tubes and uterus.

Some suffixes are used for indicating surgery or incision. For example:

-ectomy means "removal".

Mastectomy is the surgical removal of a breast to remove a malignant tumor.

-plasty means "formation or, plastic repair".

Rhinoplasty is the surgery to improve the appearance of your nose.

Some prefixes act as adjective endings that mean "pertaining to". For example:

-ac – cadiac

-al – skeletal

Some suffixes show the word is a noun. For example:

-ism demonstrates “condition, state of being” as in “alcoholism”.

-ist demonstrates “being specialist of someone” as in “radiologist”

Some suffixes indicate that the word is a small version of a thing. For example:

-ole – artiole, **-icle –** particle.

Some suffixes indicate whether the word is singular or plural. For example:

Singular : sis - diagnosis

Plural : ses - diagnoses (Glys and Wedding, 2009: 13-29).

2.2.2. ROOTS USED IN MEDICAL TERMS

The national medical languages had much in common since most of the medical terms were derived from medical Latin, or Greek roots. But there are some differences in the use of these roots and above mentioned prefixes and suffixes. For example while in German, anatomical terms and the names of the diseases are generally imported and used directly with their Latin endings, in the Romance languages like French, these terms or names are naturalized in accordance with the grammatical and semantic rules of that language.

It should also be kept in mind that nowadays, through continuous introduction of the newly developed concepts into medical language, the need for naming these concepts directed medical scientists to coin lots of new terms, most of which were composed of Greek rather than Latin roots since Greek is more suitable and productive for forming composite medical terms when compared with Latin. At this point Wulff gives the example of

“erythrocyte” which in medical Latin would have been the rather more cumbersome “cellula rubra”. He also points out that Greek hyper-, for instance, is more productive than Latin super-, although originally they had exactly the same meaning. Therefore, we say hypertension, which is a Greek-Latin hybrid, rather than supertension, which would have been the correct Latin term (Wulff, 2004; 97(4): 187–188).

Following examples contain different classifications in respect to the Latin or Greek roots. In medical language, different roots are used to define body components, quantity, description, etc. Here are some examples of these differently functioning roots (Wikipedia.org) :

1. Roots of Bodily Concepts

Bodily Concept	Greek Root	Latin Root	Other Root
Digestion	-pepsia	-	-
Disease	-pathy	-	-

2. Roots of Body Parts and Components: These roots contain internal anatomy, external anatomy, body fluids, and body substances.

Body Part/Component	Greek Root	Latin Root	Other Root
abdomen	lapar(o)-	abdomin-	-
aorta	aort(o)-	aort(o)-	-
Body Part/Component	Greek Root	Latin Root	Other Root
artery	arteri(o)-	-	-

Body Part/Component	Greek Root	Latin Root	Other Root
blood	haemat-, hemat-	sangui-, sanguine-	-
blood vessel	angi(o)-	vascul-, vas-	-
gland	aden(o)-	-	-
heart	cardi(o)-	cordi-	-
liver	hepat(o)- (hepatic-)	-	-
lungs	pneumon-	pulmon(i)-	-
nose	rhin(o)-	nas-	-
skin	dermat(o)- (derm-)	cut-, cuticul-	-
uterus	hyster(o)-, metr(o)-	uter(o)-	-

3. Roots of colour

Colour	Greek Root in English	Latin Root in English	Other Root
black	melano-nigr-	-	
green	chlor(o)-	vir-	-
red	erythr(o)-, rhod(o)-	rub-, rubr-	-
white	leuc-, leuk-	alb-	-

4. Roots of Description (Size, Shape, Strength)

Description	Greek Root in English	Latin Root in English	Other Root
bad, incorrect	cac(o)-, dys-	mal(e)-	-

big	mega-, megal(o)-	magn(i)-	-
dead	necr(o)-	mort-	-
small	micr(o)-	parv(i)-	(rare)

5. Roots of Position

Description	Greek Root in English	Latin Root in English	Other Root
around	peri-	circum-	-
left	levo-	laev(o)-, sinistr-	-
middle	mes(o)-	medi-	-
right	dexi(o)-	dextr(o)-	-
surrounding	peri-	circum-	-

6. Roots of quantity (Amount, Quantity)

Description	Greek Root in English	Latin Root in English	Other Root
double	diplo-	dupli-	-
equal	iso-	equi-	-
few	oligo-	pauci-	-
half	hemi-	semi-	demi- (French)
many, much	poly-	multi-	-
twice	dis-	bis-	-

2.2.3. SYNONYMS

Synonymy is a kind of semantic relation among words. Technically, it occurs when two or more linguistic forms are used to substitute one another in any context in which their common meaning is not affected denotatively or connotatively. For example, words such as healthy and well, sick and ill, quickly and speedily, quickly and rapidly may be viewed as examples of synonymy, simply because they share most of the characteristics with one another (Shiyab, 2007: Volume:11, No.4).

According to Shiyab, translation is not a form of synonymy, simply because words may have semantic values that are not translatable into other languages. For example, although words such as lie, falsehood, untruth, fib, and misrepresentation may be used to substitute one another in most contexts within the same language, they cannot be used to substitute one another in all contexts.

Erten believes that in medicine, synonyms are used, but synonyms in common language are different from the synonyms used in medical language. While the synonyms in common language function at the level of word, synonyms in medical language function at the level of concepts. In medicine, synonyms are mostly preferred to name the diseases (Erten:2003,56).

For example; blood cell- blood corpuscle

Colitis- inflammatory bowel disease

Eczema hypertrophicum- lichtenoid eczema, chronic eczema

Kasprowicz, who is a medical translator and interpreter expresses that contrary to polysemy, synonymous abridged forms may shorten various names of one and the same notion and she gives the examples of TUR and TURS which are synonyms and both stand for trans-urethral syndrome; TGI and TTI for tracheal gas/trans-tracheal insufflation; FD and LD for fatal dose;

NTR and DNR not to resuscitate/do not resuscitate(Kasprowicz, 2010, Volume 14, No.2).

2.2.4. ANTONYMS

Antonym is a word that expresses a meaning opposed to the meaning of another word, in which case the two words are antonyms of each other. There are three kinds of antonyms: gradable antonyms, complementary antonyms, and directional antonyms (wikipedia.org).

Gradable pairs are the end points of a range or a cline. One can imagine points in between and describe them in words. Something can be deeper, newer, or less frequent. Someone can be thinner, more humble, or noisier. They operate on a continuum and often occur in binomial phrases such as; deep and shallow, frequently and rarely, closely and distantly, sleep and insomnia.

In terms of medical terminology, the example of pancarditis, pericarditis and endocarditis can be given as gradable antonyms.

Pancarditis: Inflammation of entire heart: the pericardium, myocardium, and endocardium.

Pericarditis: Inflammation of pericardium which is the membranous sac enclosing the heart.

Endocarditis: Inflammation of endocardium which is the membrane that lines the cavities of the heart and forms part of the valves.

The second type is complementary antonyms. They are characterized by “the denial of the one implies the assertion of the one implies the denial of the other. They represent the two opposite possibilities. There is no continuum, or middle ground. For example one is either married or single.

Prenatal and postnatal; fertility and infertility can be given the examples of complementary medical antonyms.

Prenatal: previous to birth or to giving birth: prenatal care for mothers.

Postnatal: existing or taking place after giving birth: postnatal infection.

Fertility: The state of being fertile, especially the ability to produce young.

Infertility: being incapable of or unsuccessful in achieving pregnancy.

Relational antonyms are pairs in which one describes a relationship between two objects and the other describes the same relationship when the two objects are reversed, such as parent and child, teacher and student, or buy and sell (wikipedia.org).

Micro circulation and systemic circulation can be given as the example of relational medical antonyms.

Micro circulation: the movement of blood through the arterioles, capillaries, and venules, blood circulation in the microvascular system.

Systemic circulation: Circulation of blood throughout the body through the arteries, capillaries, and veins, which carry oxygenated blood from the left ventricle to various tissues and return venous blood to the right atrium.

Since medical texts are both informative and vocative, they deal with facts. According to Li-li LİU from Beijing University of Chinese Medicine, in medical writing, the translator should get on well with the linguistic concepts like antonymy (Li-li LİU, 2009: 290). An extra importance should be attached to an antonymous pair in medical writing. Li-li LİU underlines the fact that using words that match across languages but not within language may cause keeping out the esssential link between the original pair. For this reason, using the antonyms in the target language if there are any will be more preferable. If there are not ideal counterparts, in this case, the explanatory notes should be given.

2.2.5. EPONYMS

An eponym is the name of a person, whether real or fictitious, after which a particular place, tribe, era, discovery, or other item is named or thought to be named. One who is referred to as eponymous is someone who gives his or her name to something, It is possible to give some examples from Turkey for medical eponyms (whonamedit.com).

Behçet's syndrome

Hulusi Behçet

Turkish dermatologist, born February 20, 1889, Istanbul; died March 8, 1948.

Recurrent systemic disease characterized by uveitis with hypopyon, recurrent ulceration of the mucous membranes of the mouth and pharynx, and ulceration of the genitalia.

Canga's bead symptom

Şerif Çanga

Turkish physician, Ankara.

In patients with genital tuberculosis, hysterosalpingography may reveal an irregular appearance of uterus, and rosary like nodular structures in tuba uterina.

Cenani-Lenz syndactyly

Asim Cenani Turkish paediatrician and geneticist, Istanbul.

An association of syndactyly of bone, mesomelic brachymelia and normal intelligence. Inheritance is autosomal recessive.

Westphal-Leyden ataxia

Also known as:

Gökay-Tükel syndrome

Leyden's ataxia

Westphal's ataxia

Associated persons:

Fahrettin Kerim Gökay -Turkish psychiatrist, 1900-1987.

Ernst Viktor von Leyden

Kenan Tükel-Turkish neuropsychiatrist, 1915-1993.

Karl Friedrich Otto Westphal

Description:

Acute ataxia with onset in childhood. It presents with vomiting, vertigo, proximal muscle rigidity, and coma. Later symptoms include slow scanning speech; ataxia with convulsive seizures and slow jerky movements of the extremities, mental disorders, faulty memory, and dementia. Sensitivity and motor strength apparently unaffected. Both sexes affected. Death within 10 years. Final stage indistinguishable from Huntington's chorea. Undetermined aetiology. Possibly autosomal dominant inheritance (whonamedit.com).

2.2.6. ABBREVIATIONS AND SYMBOLS

An abbreviation (from Latin brevis, meaning short) is a shortened form of a word or phrase. Usually, but not always, it consists of a letter or group of letters taken from the word or phrase. For example, the word abbreviation can itself be represented by the abbreviation abbr. abbrv. or abbrev. Here are some common examples of abbreviations used in medicine.

ANA	Anti-Nuclear Antibodies
BC	Breast Cancer
CT	Computerised axial Tomography (scan)
DNA	DeoxyriboNucleic Acid
ENT	Ear nose throat
FBC	Full Blood Count
GI	Gastrointestinal
HB	Haemoglobin
I-131	Radioactive Iodine
ICU	Intensive Care Unit
JME	Journal of Medical Ethics
K+	Potassium
LN	Lymph Node
METS	Metastases (where the tumour has spread to secondary sites)
MI	Miocardial Infarction
NMR	Nuclear Magnetic Resonance
O/E	On Examination
OD	OverDose
PBSC	Peripheral Blood Stem Cell
QALY	Quality Adjusted Life Year
RBC	Red Blood Cells

SGPT	Serum Glutamate Pyruvate Transaminase - a liver function test
TSG	Tumor Suppressor Gene
UA	Urine analysis
US	Ultasound (scan)
VEF	Ventricular ejection fraction (tests lung function)
WBC	White Blood Cell count
XR	X Ray
XLS	Excimer Laser System
Y/N	Yes or No
ZIP	Zinc, Iron, And Protein (medicalabbreviations.com).

Here are some commonly used medical symbols. Though this is not a complete list, it contains the symbols used very often.

↑ increase	↓ decrease
~ approximately	# number
@ at	o degree
> greater than	< less than
+ positive	- negative
+, & and	Ø nothing, not, none
= equal to	≠ not equal to

 male  female

~.—a symbol for “about” or “approximately”

Δ.—a symbol for “change” or “diagnosis” (dx)

”

#.—a symbol for “fracture.” (NC DSS Adult and Family Services Section, November 1, 1998)

2.2.7. ACRONYMS

An acronym is a word formed from the initials of words in a phrase, such as NATO from North Atlantic Treaty Organization or "scuba" from "self-contained underwater breathing apparatus." It is often used to include abbreviations but abbreviations are not all pronounceable words.

According to Kasprowicz, abbreviation (L. brevis- short) will be understood as a shortened form of a word or phrase, spelled variously (in most cases in small letters) according to the rules of a particular language; an acronym (L. ácros- external), by contrast, as a word created from a string of one to several capitalized initial letters or syllables. With the two of them having separate dictionary entries, and two different definitions, it may be assumed that they are two separate groups of shortened forms which are bound by different grammar rules and should not be confused. She states that it is worth noting that though the above mentioned definitions are common in literature, simultaneously, an acronym is itself very often defined by the word abbreviation. Mostly the notion “abbreviation” has been used synonymously for shortened form of everything. Within this context, “He’s” (contraction), SARS (acronym), Feb (truncation), Interpol (syllabic abbreviation), or e.t.c. (Latin abbreviation) may be considered as

abbreviation, yet, in linguistics, the dominant view is to evaluate acronyms and abbreviations as two different groups (Kasprowicz, 2010, Vol. 14, No.2).

Acronyms and abbreviations are commonly used in both written and oral medicine especially for expressing names of diseases-e.g. autosomal dominant polycystic kidney disease, not to mention one of the longest English words: pneumonoultramicroscopicsilicovolcanoconiosis) (Kasprowicz, 2010), for expressing diagnosis methods-e.g. dual-energy x-ray absorptiometry : (DEXA), and in some blood tests-e.g. SGOT: Serum Glutamic Oxaloacetic Transaminase. Because when they are used in full, they may create difficulty in medical communication. For example instead of saying “Early Morning Urine Osmolality” for evaluating urine concentration, use of its acronym “EMUO” is more practical and provides more economy. Use of acronyms and abbreviations is also of great importance especially in medical emergency situations. When they want their patients not to know the true content of the disease, health professionals may prefer abbreviations and acronyms, too.

Thus far, the positive sides of the use of acronyms and abbreviations were mentioned. But it should always be kept in mind that prodigally use of them with no explanations may result in ambiguity, too. Kasprowicz reminds that several different terms may stand for one acronym (e.g. CF has over 20 medical meanings, MA over 25) (2010).

After these detections, it will not be surprising to see that Fischbach uses the notions of both abbreviation and acronym for the same word. In an interview made in 2007, he points out that English is extraordinary in its open-mindedness in borrowing from other languages, sometimes blindly. He says:

> Take the medical expression “EKG”,which, to this day, most American physicians use as the acronym for electrocardiogram, although “ECG” would be more correct. Why “EKG”? Because in 1903, after developing the string galvanometer and realizing its potential benefits to measure the electrical activity of the heart, the Dutch physician Willem Einthoven published his conclusions in an article titled “Die galvanometrische Registrierung des menschlichen Elektrokardiogramms”, which appeared at the Pflüger’s Archiv

> für die gesamte Physiologie des Menschen und der Tiere. That is how the abbreviation “EKG” for Elektrokardiogramm entered English usage (Arroyo, 2007: 72).

As a general rule, the shortened forms should not be used in the titles, unless it is a commonly used and recognized one. Within the text, the author should define the shortened form when it is used for the first time. The translator should also follow the same way; first he/she should give the term in its full form and the acronym in parenthesis and then continue with the shortened form. For example:

When compared with bare-metal stents, **drug-eluting stents (DES)** implanted during percutaneous coronary intervention (PCI) have markedly lowered the rate of restenosis and the need for repeat intervention. Stent thrombosis (ST), albeit an infrequent event, remains the main safety concern and long-term complication associated with the use of both bare-metal stents and **DES.**

2.3. THE NATURE OF MEDICAL TEXTS

In an interview that he gave to Panace, Peter Newmark explains different aspects of medicine and medical translation. A part of the interview is below:

> Translation is not merely a dualistic process. It has to take account of five medial factors: ethics, reality, logic, ‘pure language’ and aesthetics, of which only aesthetics is not exclusively universal. I can easily relate medicine to all these concepts. First, ethics is particularly important in medical translation- not only that you translate the text accurately but also you have to ensure that you do not injure or kill the patient. This is more important than the author or the reader. If the author gives instructions that are unethical, the translator must have sufficient knowledge to warn the reader, or to correct the situation. All translators need to be temporary experts in the sense they must have access to experts or check the medical aspect of the translation. As regards reality, this means what is happening_ not the language but what the language is describing. Medical translators have to visualize what is happening. They need to ensure that this is realistic. The point about logic is that the text is casually and temporally logical, or sequentially so that if you get words like “therefore” and “then” they have to be appropriate to what is happening. Aesthetics in medical translation means that your text is

> agreeably written. By that I mean, clear, concise and sounds nice. It mustn't be over-heavy, it should read as well as it sounds. It would be nice if it were written in an attractive way (Shea, 2005).

Medical translation is a type of specialized translation, so what is in question is a specialized language. Medicine incorporates a big number of new terms in the medical lexicon and medical translators should be familiarized with the medical terminology. Medical translator's work is diverse; they can translate documents like clinical study reports, healthcare products, medical reports, medical charts, X-ray or MRI reports, medical papers, hospital discharge summaries, vaccination cards, insurance claims or others like technical product user guides, promotional literature and press releases, software, research papers, websites, clinical trials, etc. An error in medical translation can be mortal. There is no space for mistake when it comes to the lives of patients, and no time for communication delay when every second counts. Medical translation must be exact, with accurate terminology. Medical translation needs expert translators in the science and practice of medicine.

For the use of specialized terminology, in her article titled "Neutral Spanish, Spanglish and Medical Translation", Izquierdo points out that the large amount of specialized terminology used ("terminological density") can be a serious problem for the translator (2006, Volume 10, No.3). Medical texts are scientific texts and they need a specialized language. She defends that in case of medicine this specialized language shows a heterodox character which reveals the need for a neutral variety and she presents the reason of this need as follows:

a. Because the boundary between the common and specialized language is not clear-cut. Some authors in fact speak of general language and specialized language as actually forming part of a continuum. The degree of specialization of the text (which is sometimes determined by its function—more informative, more popular, more persuasive, and so forth) will determine where it is situated on that continuum. This aspect is reflected very clearly in medical language. For instance, are the

package leaflets for a medicine that are written for the patient/consumer and the technical specifications sheet aimed at the health professional both specialized texts? The answer would seem to be that they are. But does the pharmaceutical laboratory write them both in the same way? The answer now appears to be clearly negative.

b. Because, additionally, there are medical genres that are used for popular informative purposes and which make systematic use of vocabulary and structures from the common language (e.g. medical genres providing information for the patient or in prevention campaigns) (2006, Volume 10, No.3).

As Izquierdo mentions above, medical language is not restricted with only specialized language, because in contrast with the other scientific fields, medicine has a close relation with common language, since medical texts are not written for only medical professionals and medical language is not needed only in hospitals, pharmacies, congresses, etc.

According to Montalt and Davies, it will be misleading to limit the medical communication only with the written interaction among the researchers. Its continuum contains research articles, educational health programmes on Tv, the news related to the health and medicine in printed media. Many particiants like researchers, physicians, surgeons, nurses, carers, patients, family members of the patients, health managers, health policy makers, medical teachers, medical students etc are included in medical activity. Knowing this dynamism and large spectrum of medical communication will be a facilitative factor for the medical translator (Montalt, Davies: 2007, 46)

CHAPTER III: THE SKOPOS THEORY AND MEDICAL TRANSLATION

3.1. THE SKOPOS THEORY

Medical communication is not only made up of the need of being produced and commercialized of the new drugs by pharmaceutical companies, or the need of being solved of health problems by the health authorities, or formally written research papers. It also includes patient histories written by the patient himself and consultations made with the patient, or questionnaires related with the public health, or the forms that the patients have to fill in for making use of health services (Montalt, Davies: 2007, 46).

As it was mentioned in chapter two, medical communication and medical language used in different processes of medical communication take place in a large spectrum due to the wide range of participants in medical communication. Therefore, the use of specialized or the common languages, the degree of the use of each of these languages change in a large spectrum, too. In order to be able to suit these different participants' fancy, a medical translator should follow different methods. As it can easily be guessed, the translation of a medical text for a health professional will be quite different from the translation of the same text for a layman. Hence, medical language used in different types of medical communications for different participants will be different from each other. The closest translation theory that meets the expectations of different participants, that is different target readers of the medical communication seems to be the "Skopos theory", since it focuses on the assignments given to the translator by a commissioner with a specific purpose.

The skopos theory was developed in Germany in the late 1970s by Hans Vermeer and became a milestone in the translation theories. As

Gentzler points out it is a general shift from linguistic and formal translation theories to a more functionally and socio-culturally oriented concept of translation, so it has become "a welcome addition to translation studies" (Gentzler 2001: 71). In the 1980s Vermeer enunciated the word “Skopos”. The theory gave a new impulse to the translation especially to the translation of the non-literary texts.

In 1980s, translation started to be considered as a cultural transfer. Translation is appreciated as socially-enacted communicative practices, which is oriented towards the function of the target text (Snell-Hornby, 1990: 79-86). Considering translation as a type of social action, Vermeer (1989a: 227-239) claims that translation is produced for particular recipients with specific purpose(s) in a given situation (Skopos). A translator accomplishes his/her translation assignment with such purpose(s) in mind. The translator's task (commission) entrusted by the client is accepted as an essential prerequisite for the fulfillment of Skopos. According to Vermeer (1989a: 227), the aim of any translational action and the mode in which it is to be realized, are negotiated with the client who commissions the action. The translator is the expert, who is responsible for the performance of the commissioned task, for the final *translatum*. The target text is "functional" to fulfill the expectations and needs of target audience. Vermeer explains Skopos rule as follows:

> Each text is produced for a given purpose and should serve this purpose. Translate/interpret/speak/write in a way that enables your text/translation to function in the situation in which it is used and with the people who want to use it and precisely in the way they want it to function. (1989b:20 in Nord 1997: 29)

The principles of translational (translatorial) action theory was founded on the basis of Vermeer’s Skopos theory. ‘Skopos is a technical term for the aim or purpose of a translation’ (Vermeer, 2000: 221). According to Skopos theory, any action has an aim, a purpose and translation is not merely transcoding the source text, but is a form of human action which has its own purpose basically decided on by the translator (Schäffner, 1998b: 235; Hönig,

1997: 9). Vermeer defines “commission” as ‘the instruction, given by oneself or by someone else, to carry out a given action [which could be translation]’ (2000: 229). The basic principles of the Skopos theory can be summarized as such:

Any form of translational action, including translation itself, may be conceived as a "purposeful activity" (Nord 1997:12). Every translation presupposes a commission and is carried out according to a skopos or commission, which is largely determined by the commissioner or client--a person, a group, or an institution. The skopos of the TT and the mode in which it is to be realized are negotiated between the commissioner and the translator. The translator as the "expert" in translational action is responsible for the final translation (Vermeer, 2000:221-230).

> Translation is the production of a functionally appropriate TT based on a source text (ST). While the translator is entitled to decide what role an ST plays in the translation process, the decisive factor is the precisely specified skopos. The ST is only one constituent of the commission and an "offer of information(Baorong, 2009).

Hence, the source text is dethroned from its sacred position by the translator. As Hönig (1997: 9) notes, "The source text should no longer be seen as the 'sacred original,' and the purpose of the translation can no longer be deduced from the source text, but depends on the expectations and needs of the target readers."

In the Skopos theory, the translator is free to choose the suitable strategy and methods that will meet the expectations of the client and he/she has to take the responsibility of these choices. Here "the end justifies the means" in translation (Nord 1997:29). So, translation strategy is determined by the intention of the target reader, this means that the function of the target text may be different from the function of the source text. Vermeer (Snell-Hornby, 1990:82) expresses that “Translation is a complex form of action, whereby someone provides information on a text (source language material) in a

new situation and under changed functional, cultural and linguistic conditions." Nord (1997:91) points out that "A text can be as many texts as there are receivers."

Schäffner defines skopostheorist approach as an offer of information from its producer to a recipient. In this case, translation is a secondary offer of information about information originally offered in another language within another culture (Schäffner, 1998b: 236). According to Shuttleworth and Cowie, the translator's responsibility is to interpret ST by selecting the features corresponding to the requirements of the target situation. Because, the translator is accepted as the expert in Skopos theory. (Shuttleworth & Cowie, 1997: 156). When all this information on Skopos theory is taken into consideration, it is understood that the determinant factor in the translation process is the target reader and the intentions and expectations of the target reader. Schäffner explains this characteristic of the translation process in line with the Skopos theory as " the relationship between the two texts is specified according to the skopos of the translation" (Schäffner, 1998b: 236). According to Shuttleworth & Cowie, "the translator should use the translation strategies which are most appropriate for achieving the purpose for which TT is intended" (Shuttleworth & Cowie, 1997: 156).

When this rule is applied to medical translation, it is clear that the medical translator should follow different translation methods and strategies while translating for different recipients. For example, while translating for a patient, the translator should avoid the use of medical terms and expressions as they are. Instead of this, he/she should choose the more popular equivalents of them and where necessary, he/she should give footnotes and explanations for the patient. On the contrary, if the text to be translated is for a health professional, in this case, the translator will be free to use the medical terms and expressions as they are, since this medical terminology creates no problem for the medical professional and giving footnotes and explanations will be unnecessary, too. Hence, the intended purpose of translation affects

the translator's decision-making and determines his/her translation strategies.

As mentioned above, here, the translator is the expert and the recipient of the translation and the intention of the recipient are the determinant factors in the translation, so the source text is not determinant any more. Schäffner expresses that "The translator offers information about certain aspects of the source-text-in-situation, according to the target text skopos specified by the initiator. " (Schäffner, 1998b: 236). Hönig explains the role of the translator as such: "The translator may be held responsible for the result of his/her translational acts by recipients and clients. In order to act responsibly, however, translators must be allowed the freedom to decide in co-operation with their clients what is in their best interests (Hönig, 1997: 10).

According to Nord, when compared with the equivalence-based theories, in the Skopos theory, the role and the position of the ST is completely different. While the ST is the main criterion in the equivalence-based theories, in the functionalist approaches like the Skopos theory, the ST is no longer the decisive factor in the translation process. it is regarded as just one of the various sources of information used by the translator (Nord, 1997: 25).

Hence, the focus is now on the TT and on its communicative functions. The determinant factor is not ST, but the target receivers whose reception will be entirely guided by target culture expectations, conventions, norms and models. Therefore, the translation procedures are determined and formed according to the translation skopos.

According to Vermeer, translation procedures are determined in line with the skopos of the translation. If the skopos of the translation requires a faithful translation, in this case, the TT will be closer to the ST. This is true when the skopos of the translation is in harmony with the communicative

intentions of the SL text author. On the contrary, if the skopos of the translation is different from the intention of the SL text author, the main idea could be presented as " The end justifies the means", and there would be no restriction to the range of possible "ends" (Nord, 1997: 47).

"Visibility" is a significant concept for functionalist approaches claiming that the translator has to be visible. According to Hönig, the most significant feature of the functionalist approaches is to support the decision-making strategies of the translator; so the translator, taking into consideration the skopos of the translation, has to make critical decisions, and also find the suitable strategies meeting the target recipient's needs. While doing this, s/he should take the responsibility of her/his decisions during the translation process. Being transparent of the decisions of the translator to his/ her client is the "visibility" of the translator (Hönig, 1997: 12-13).

Vermeer postulates that as a general rule it must be the intended purpose of the target text that determines translation methods and strategies. From this postulate, he derives the skopos rule: Human action (and its subcategory: translation) is determined by its purpose (skopos), and therefore it is a function of its purpose(Schäffner, 1998: 235). In addition to its purpose, any action has an outcome. Hence, in Skopos theory knowing the purpose of the translation of ST and what function the TT will have is of great importance for the translator.

> The main point of this functional approach is the following: it is not the source text as such, or its effects on the source-text recipient, or the function assigned to it by the author, that determines the translation process, but the prospective function or skopos of the target text as determined by the initiator's, i.e. client's, needs. Consequently, the skopos is largely constrained by the target text user, (reader- listener) and his/her situation and cultural background (Schäffner, 1998: 235-236).

3.1.1. THE SKOPOS THEORY IN MEDICAL TRANSLATION

According to Vermeer, stating the skopos explicitly, or implicitly in the commission is essential for the translational action(Vermeer, 1989: 228). For Vermeer the commission comprises a goal and the conditions under which that goal should be achieved. Therefore, the translator who is the expert of the translational action can advise the commissioner/ client on the feasibilty of the goal.

Medical translation is a specific area and it is a professional activity determined by the assignment. In medical translation, comprehension of the medical facts and notions is the key element both for the translator, and for the target reader. While the literary translator focuses on style, rhythm, puns, characters, etc, the medical translator deals with the facts and how he/ she will express these facts according to the scope and how to overcome the factual complexity and how to create accuracy.

Due to the challenges of translation in the fields like medical translation, more recently, the theorists have shifted the main emphasis to the function of a translation which in turn also determines the target receivers. Identifying the main function of the translation as the main criterion for determining the translation strategy brought a modern approach to the translation and offered a meaning-based and target receiver-based theory to it which is essential in medical translation, too.

According to Montalt and Davies, the starting point of any professional translation process is the assignment given by the client to the translator. So there are two cornerstones that the translator should take into account: the contents of the source text and the assignment described by the client. Montalt and Davies express that the work of Katharina Reiss and Vermeer brought about a dramatic breakthrough in Translation Studies mainly because they were the first to suggest that the skopos or the function of a

text is the translator's main concern. They underline the fact that Christiane Nord took this further in her books *Text Analysis in Translation* (1988/1991) and *Translating as a Purposeful Activity* (1997) where she presented a translation theory that aimed at reconciling academic and professional viewpoints and interests: functionalism. Montalt and Davies reminds the Lasswell's wellknown question(1948 in Nord 1991): "Who says what in which channel to whom with what effect?" The translator should answer these questions in the translation. Montalt and Davies assert that Reis, Vermeer and Nord added this the questions of "when, where, why and how?" (Montalt-Davies, 2007: 28).

Since the communicative situations and commissioners that demand medical translation are very broad and they include not only the researchers, but also the health professionals, patients and all the public, the same medical text has to be translated differently according to these different target groups. These different target groups, as Vermeer called, the clients may be from the international institutions such as WHO(World Health Organization), government agencies, universities, research intitutes, hospitals and health services, pharmaceutical laboratoires, publishers in the health sector, manufacturers of medical appliances, medical software industries, biomedical research centers, biotechnology companies, health and care managers and professionals and patients.

When these recipients' background, culture, level of education, level of being familiar with the subject are taken into consideration, the important role and the responsibility of the translator here can easily be understood. All above mentioned characteristics of the recipients affect the translation process and the decision of the translator. For example the translation of a medical report for laymen differs considerably from a translation of the same text for medical doctors. It should be also added that nowadays, due to the increase in the number of non-pofessional but well- educated people and the development in media and communication, the interest in medical terms and

health increased, too. Hence, it will not be wrong to say that medical language is a part of our everyday lives, and more and more people demand more explanatory and detailed information about their health and diseases from the health professionals.

Herget and Alegre point out that the increase in the number of publications of popular science texts has made a very remarkable contribution to the spread of medical language among the general population. They explain the difficulties and the misunderstandings between the doctor and the patient as such:

> However, the use of scientific terms may constitute a comprehension barrier between the doctor and the patient, which is why professionals prefer to use terms from the everyday language when talking to their patients. Such communication may, however, lead to misunderstandings due to the fact that doctor and patient have a completely different notion of one and the same concept. In German, for instance, the doctor normally uses the term Diabetes, whereas the patient would rather opt for the word Zuckerkrankheit ('sugar disease'). The term Zuckerkrankheit gives a quite general idea of the disease and just underlines one aspect of the whole pathological condition. (Herget and Alegre, 2009: Vol.13, No. 3)

Here another important side of medical translation should be dwelled upon. The scope of the translator will change according to the specifics of the task asked by the client. These tasks may include translating the same text for both internal use and for publication, rewriting and adapting the text, writing original text from given information, translating and updating medical web pages, translating research articles, revising and editing both translations and originals, creating terminological data bases for medical terms, translating and adapting medical dictionaries, etc. (Montalt-Davies, 2007: 27).

As mentioned in chapter 2.3. The Nature of Medical Texts, medical translation includes a wide spectrum of genres like scientific research articles published in highly specialized journals, books for medical students, patient information brochures, press releases, health programs on TV, prescriptions,

prospectus, etc. Hence, it is not wrong to say that there can be numerous translations of the same text according to all the above mentioned medical genres. Here skopos theory comes to the translator's rescue and enters the process of translation.

Another important rationale for the use of skopos theory in medical translation is medical ethics and responsibiltiy. Since the healths and even the lives of the patients come into question in medical translation, if the translator translates in the same way for the patient as translating for a health professional, this means to ignore the critical importance of accuracy and validity of information and facts in translation. For example, not understanding the use and the side effects of a drug written in the prospectus due to the use of a highly specialized medical language can lead to patient even to death. For this reason, in accordance with the skopos theory, the translator must analyze the needs and the purpose of the client and the specifics of the commission in detail while receiving the assignment.

As mentioned above, the assignment is the starting point and the scope of any professional translation act. A medical translator should take into account not only the the task as described by the client, but also the communicative situations and genres in the field of medicine. This may sometimes require some changes in the style, register, lexis, or syntax. The necessary adjustments are directly related with the above mentioned elements.

3.1.2. ANALYSIS OF THE PARTIES AND THEIR SCOPE IN MEDICAL TRANSLATION

According to Montalt and Davies, medical knowledge includes many different participants like; researchers, physicians, surgeons, nurses, carers, patients, family members of the patients, health managers, health policy makers, medical teachers, medical students and so forth. Hence, when all these different participants are taken into consideration, it is clear that this medical knowledge may be formal or informal, specialized or popular, oral or written. Introduction of a new drug, patient histories, research papers, doctors' consultations with the patients, medical questionnaires, application forms filled by the patients, etc. are all in the scope of medical communication (Montalt, Davies: 2007, 46).

Since a lot of different people are involved in medical communication, first of all, it is necessary to define for whom you will translate and also to define the profile of the reader. Montalt and Davies categorizes the target readers of medical translation under five groups: general readers, patients, medical students, health professionals and lastly researchers(2007: 52). These profiles are completely different from each other when their levels of specialization are compared and this difference creates a considerable difficulty and complexity for the translator. All these receivers are functional receivers, but they all demand medical translation for different aims and they each use it in different ways and fields (2007: 53).

A general reader uses medical information for having a general idea about the diseases, for learning how to prevent them, and how to become healthier. For a patient, medical information is crucial for treating the disease, for taking the necessary drugs properly, knowing the indications, side effects, use of the drug and interactions with the other drugs. A medical student aims at becoming a health professional and must learn medicine professionally. A

health professional must implement knowledge, and a researcher must advance knowledge.

All these diferent types of parties, or clients, as they were called by Vermeer, differ from each other in many ways, so the translator should pay attention to these points. Montalt and Davies summarize the points that these different clients differ from each other as follows (2007: 53):

1. Educational and professional backgrounds of the clients are completely different from each other. Translating for the well-educated ones is always easier.
2. The translator should be aware of the knowledge and the experience of his/ her client on the subject so that he/ she can decide on the explicitness of the translation. Whereas a client who is far away from the subject needs some footnotes and explanations, for an experienced client these are completely unnecessary.
3. Linguistic levels and the abilities of the reader play an important role for the translator. Some of them lack in having a good command of their mother tongues when they come face to face with its use in formal or non-colloquial contexts.
4. For an ordinary reader, specialized terminology of medicine does not mean so much. So being familiar or not of the reader with the terminology makes the translation process for the translator easier or harder. A vice versa is valid for the reader, too. If the translator is not aware of the terminological background of his/her client, or does not care about it, in this case, too, the translation will not fit for the scope.

Here it will be useful to refer to the typology presented by Löning (Löning in Herget and Alegre, 2009: Vol. 13), too. In her typology, she defines four types of parties in medical communication according to their levels of specialization and their scope. These are as follows:

1. Professional - professional (doctor - doctor)

They aim at transfer of current specialized knowledge in scientific texts. Publications, summary reports are the examples of this type.

2. Professional - semi-professional (doctor - medical student/health personnel)

They aim at transfer of basic knowledge. Course books, handbooks, and monographs are the examples of this type.

3. Professional - non-professional (doctor - patient)

They aim at patient education and practical instruction. Books and writings on patient education and instruction are the examples of this type.

4. Non-professional - non-professional (journalist - reader)

They aim at arousing interest and turning problems public. Articles in newspapers, magazines of general interest and health magazines are the examples of this type (Löning in Herget and Alegre, 2009: Vol. 13).

Due to the diversity of the people who are involved in medical communication and to their different characteristics and needs from each other, medical translation emerges as a remarkable specialized field of translation and this diversity paves the way for the use of the Skopos theory in medical translation.

3.1.3. STEPS IN THE TRANSLATION PROCESS WITH RESPECT TO THE SKOPOS THEORY

As it was mentioned above, for Vermeer translation is one type of social action and it is produced for particular recipients with specific purpose(s) in a given situation (Skopos). A translator should translate as bearing this purpose in his mind. The specification by the client on the translator's task or commission is the basic prerequisite for the fulfillment of Skopos.

According to Vermeer (1989a), the purpose of the translational action and the conditions under which the anticipated purpose shall be reached are negotiated between the client and the translator. Within the framework of the Skopos theory, in the translation process, the first step is this negotiation between the translator and the client. The translator should comprehend the client's purpose and intention in order to be able to meet his/her expectations from the translation. In this way, the source text is dethroned of its privileged and sacred position by the translator and in accordance with the Skopos theory, he/ she translates it in a way that he/she thinks this suits best to the purpose determined together with his/ her client. Hönig (1998: 9) states, "the source text should no longer be seen as the 'sacred original,' and the purpose of the translation can no longer be deduced from the source text, but depends on the expectations and needs of the target readers." Hence, the Skopos theory allows the translator to have freedom to act as an expert and take the responsibility for his/ her decisions. In the Skopos theory, the way a target text is intended to be received basically determines which translation strategy is the most suitable one.

According to Kaur (2005), another important point in the translation process is that a good translator must have empathy for his or her target readers and he/she should be client-friendly. She claims that the translator should make the translated product suitable to the intelligence and proficiency levels of the target reader. So a text translated for primary school students must suit to their intelligence and language proficiency level, and a text translated for university students must suit to their level of comprehension. Once the translated text fulfills these criteria, it means that this is a reader-friendly translated text and meets the expectations of the reader well. In other words, translators must know the skopos or purpose of their translation task.

Kaur also states that:

> An effective translator must be aware that writing and translating involve similar features. The writing stages involve determining the message content (what?) and general purpose of the message (why?) defining the recipients (who?) and function (expected reaction of the recipients), planning the amount and order of content (What is assumed) and the realisation (what is expressed linguistically and what by some other means). The preparatory phase for writing involves the choice of text type (letter, novel, literary, non-literary, expository, informative, argumentative etc.). Here the writer must consider the format, publication, circulation, presentation involving the questions—where? when? how? and the writer also must consider the alternative modes of communication (2005).

These ideas claimed by Kaur fits for the principles of the Skopos theory and the translation process in the light of the Skopos theory, too.

Newmark expresses reading and understanding the text as the first step of a translator's job. The translator must read the original for two purposes: to understand what it is about and to analyse it from a translator's point of view that is different from a linguist's or a literary critic's. He points out that the translator has to discover the intention and the purpose of the translation in order to be able to choose the suitable methods and to solve the possible problems during the translation process. For understanding the text, the translator should make both general and close reading. He emphasizes that for the translator the function precedes the description. While expressing the importance of close reading, he puts his ideas forward in the following manner:

> A knife is for cutting with, but the blade and the handle are important too – they distinguish the knife from the scissors. Close reading is required, in any challenging text, of the words both out of and in context. In principle, everything has to be looked up that does not make good sense in its context; common words like *serpent* (F), to ensure they are not being used musically or figuratively (sly, deceitful, unscupulous) or technically (EEC currency) or colloquially; neologisms - you will likely find many if you are translating a recent publication, acronyms, to find their TL equivalents, which may be non-existent (you should not invent them, even if you note that the SL author has invented them); figures and measures, convening to TL or *Systime International* (SI) units where appropriate; names of people and places, almost all words beginning with capital letters -encyclopaedia words are as

> important as dictionary words, the distinction being fuzzy- (Words like 'always, never, all' must have no place in talk about translation - there are 'always' exceptions). You can compare the translating activity to an iceberg: the tip is the translation - what is visible, what is written on the page - the iceberg, the activity, is all the work you do, often ten times as much again, much of which you do not even use (1988: 28).

Here, in translation process, the variability in both the scope and the profile of the clients should be examined as one of the points which has utmost noteworthiness. While giving a task of translation to the translator, a client has some priorities in mind. Akakuru (2010) categorizes them as such: Readability; the translated text must be easy for the client to read, must be understandable enough, accuracy; the translated text must contain the message and the aim that the client demands from the translator during negotiations and lastly timeliness; the translator must respect to the deadlines of the client.

The social, educational, economic and the intellectual level and profile of the client play an important role in the translation process and these characteristics of the client can either make the process easier or more difficult for the translator. The requirements also change from one client to another. The text which is to be translated may be scientific, technical, technical-scientific, technical-non scientific or literary. Akakuru points out that the diversity of the client's instructions puts different pressures on the translator. He emphasizes that especially while translating scientific texts, details of chemical reactions, temperature, color, details on dosage, complex stratified/procedural information on the working of a machine, etc are so critical that mistakes or approximations or inaccuracies may be life-threatening. At this point Akakuru gives a striking example: "Scientists know what results you get when you instruct students in a college laboratory to "add drops of water into a jar containing sulfuric acid" rather than "add drops of sulfuric acid into a jar containing water." In the former case, the student may probably have part of his tender face charred by the sudden upsurge of heat; in the latter, the temperature

rise is gentle."(2010) When this example is given in the field of medicine, it is not surprising that the results of mistranslations can be even fatal.

It must always be kept in mind that the language of science is universal and it is used by everybody all over the world, but the abstract terminology differs from one culture to another, so the terminological classification differs, too. New discoveries and categories are added to the literature of science everyday and this causes semantic problems for the translator, too. During translation process, the translator has to struggle with the cognitive elements and the hard terminology in the scientific and technical texts as in our field, medical translation. Akakuru expresses that:

> Each of these considerations determines the peculiar details of the source text in the target text in the course of translation: what faculties are activated, what knowledge would be called into play, what supplementary terminological and cognitive research must be undertaken by the translator to ameliorate perceived inadequacies in his knowledge or repertoire. (Akakuru, 2010).

Hence, for solving the terminological problems that he will meet during the translation process, the translator should take some measures and make the unfamiliar terminology familiar to the client.

As it can easily be noticed, the client is completely out of these hierarchical and painful steps of a translation process including translation theories, and models, the choice of words and expressions, syntactic structures, punctuation, etc. He/ she looks at the process externally, because he/ she is interested in only the product of the process, that is the target text, not in the process itself. Following the translation process, in line with the skopos theory and the instructions of the client, the end product can carry the exact nature of the source text, or it can be totally different from the source text with only some pragmatic links with it.

CHAPTER IV: METHODS USED IN THE TRANSLATION OF DIFFERENT KINDS OF MEDICAL TEXTS

4.1. TYPES OF MEDICAL TEXTS

As it was examined in detail in Chapter II, medical communication is a wide range of communication and many different people with different educational levels, with different backgrounds, with different needs, intentions and expectations are included in it. The most important part of medical activity is that it is for everybody, everybody needs medical communication in a way in a part of his/her life. Hence the texts written for these wide range of communication and participants will be different from each other. Before examining the methods to be used in medical translation, it is necessary to examine and recognize the medical text types.

If the language used in the scientific texts are examined, it can easily be noticed that the author will use a formal language, and this language will mostly include a special terminology which is peculiar to that scientific field. This specialization makes the scientific texts more difficult and more abstract than other types of texts. No doubt that these standardised terms are easier to look up, but they will create a difficulty for the ones who are not familiar with the subject.

As being scientific texts, medical texts reflect and incorporate all above mentioned features of the scientific texts. In his book titled “A Textbook of Translation”, Peter Newmark who is one of the prominent people in medical translation and pinoeering theoretician categorizes the medical language under three headings. These are “Academic Language”, “Professional Language” and “Popular Language”. He says that based on medical vocabulary, he suggests the following levels (Newmark, 1988: 153) :

(1) ***Academic:*** This includes transferred Latin and Greek words associated with academic papers, e.g. 'phlegmasia albadolens',

(2) ***Professional:*** Formal terms used by experts, e.g, 'epidemic parotitis, Varicella', 'scarlatina', 'tetanus.

(3) ***Popular:*** Layman vocabulary, which may include familiar alternative terms, e.g. 'mumps', 'chicken-pox, 'scarlet fever, 'stroke', 'lockjaw'.

Newmark also adds that:

> However, these are general categories to which it is often arbitrary to assign one or another term. In some areas, the nomenclature is clouded by additional obsolete, obsolescent or regional terms. There is a frequent tendency to name a product by its latest trademark. Further, eponyms identify a discovery or an invention by the name of whoever is associated with it, which is not recognised by another country in its language; thus (of thousands of examples) the lesser pancreas is also known as Willis's or Winslow's pancreas, but only in English (1988: 153).

In an interview that he gave to Panace in 2005, (Shea, 2005: Vol. VI), Peter Newmark explains this classification with those words:

> The academic language sphere is the medical faculty professor using Greco-Latin terms as they are, while the general professional would use the standard English word. If you consult one of the major medical dictionaries, such as the Dorlands, you will find perhaps three different terms for each entry, starting with the Greco-Latin. An example of this level would be icterus as a term for jaundice. At the second level, terms like hepatitis. Then they tend to provide the popular term for illnesses such as “runs” for diarrhoea. So you could say that medical translators should know all three registers of terms (not always three but sometimes two), recognize the proper register for each situation, and feel confident about when to employ the different terms or expressions(2005, Vol. VI, No: 21-22).

He also adds that when medical personel use difficult language to keep information from a patient, this process is called as “blinding with science”. Newmark criticizes this attitude of medical personel with these words: “Doctors don’t want to worry their patients but it would worry me even more to hear mumbo jumbo (2005, Vol. VI).

No matter what kind of a medical text is to be translated, a medical translator should be aware of the medical language and medical writing styles in order to meet the expectations of the commissioner. Montalt and

Davies define the basics of medical language and medical writing that a medical translator needs to be familiar with as follows:

_ The most translated genres, especially in the target language, and the formal differences between them

_ The form and function of medical terms in the languages involved and the differences between them

_ The chemical, generic and trade names of drugs

_ Terminological standardization: international nomenclatures, classifications, taxonomies, and so forth

_ Medical metaphors and images

_ Medical acronyms, abbreviations and symbols

_ Medical phraseology especially in the target language

_ Linguistic varieties within the same language (e.g. British, American, and Australian English; Castilan, Mexican and Argentinian Spanish, etc; or Brazilian and Peninsular Portuguese) (2007: 36).

4.1.1. ACADEMICALLY WRITTEN MEDICAL TEXTS

In general, medical writing is about communicating clinical and scientific data and information to a range of audiences in a wide variety of different formats. Among these formats, academic ones are the most formal ones and they represent the core of scientific discourse. Additionally, they are the most difficult ones for both the authors and the readers. It is not wrong to say that for a laborman, it is not possible to understand the academic texts easily and thoroughly. Does an ordinary person read an academically written article? Maybe, a decade ago, the answer of this question was “No”, but today, the answer turned from negative to positive and became “Yes”. Our age is the age of technology, science and computer.

Nowadays for an ordinary patient, accessing the information about his/her disease through internet and reading the articles written by professors and professionals of the field are quite easy and common.

A negative aspect of academically written medical texts is their being boring, tiring and not understandable even for the specialists of the field. Derish and Eastwood give examples from their own experiences with the young surgeons and quote that "When polled on the first day of class, surgeons in our scientific writing courses usually say that they dislike reading scientific journal articles. They find that much of what they read lacks a clear message and is densely written and poorly focused. The first lesson they learn that day is the reason, which is that too many scientific papers are written to serve the need to publish rather than the need to communicate with readers." (Derish and Eastwood, 2008: Vol. 147 Issue 1). Derish and Eastwood emphasize that in order to write a paper that can be understood—and cannot be misunderstood— the author of the academically written text should keep the readers in mind. These readers may be the colleagues of the author, as well as medical or graduate students and fellows who are just gaining familiarity with the subject field, as well as scientists and surgeons not working in that field, many of whom are not native speakers of English.

According to Derish and Eastwood with the impact of the Internet, even patients and potential patients may read your work. They say that:

> Among your colleagues, most must fit reading into a hopelessly busy schedule, which means they read quickly and may misinterpret, or simply miss, ideas at any point that slows their reading down. The second lesson that surgeons in our writing courses learn is that the burden of clarity rests with them, as the author. The reader's job is to follow the author's thinking and assess the author's work—it is not to decode or reconstruct the paper (2008: Vol. 147 Issue 1).

At this point, it is necessary to dwell upon the characteristics of a well-written scientific text since all scientific authors should follow these principles in their writing. Rolf Johansson, in his lecture about "How to write a scientific

text" mentions the basic characteristics of a scientific text and emphasizes the use of the IMRaD format in the scientific texts. In the IMRaD format the text is structured in the following way (Johansson, 2003: 3-5):

Introduction: What question was studied and why?
Methods: How was the problem studied?
Results: What were the findings?
and
Discussion: What do these findings mean?

In the article that she compares English and French scientific publications, Hoorickx-Raucq expresses that original articles in both *The Lancet* and *The New England Journal of Medicine* all have the same surface structure starting with an abstract and followed by four major parts entitled Introduction, Subjects and Methods, Results and Discussion. Then comes a bibliography and usually a long list of authors, colleagues, coworkers and scientists involved in the same or same type of research as that which is discussed in the article (Hoorickx-Raucq, 2005: Issue: 03).

The scientific language used in academic texts includes passives, normalisations, third persons, empty verbs, present tenses and this academic language is free from emotive language, connotations, sound-effects and original metaphor, and normally each term has one specific meaning.

Jenkins summarizes the characteristics of the scientific texts as the authority, the degree of certainty, assumptions and restrictions, expressions of (un)certainty, expressions of precision and accuracy, evidence, expressions about the validity and reliability of the evidence, and he says that the scientific texts appeal to prominent scientists, to accepted literature, to the nature of science, and to logical reasoning (Jenkins, 2011).

It should always be kept in mind that the major characteristics of scientific academic discourse are:

objectivity- taking into consideration pros and cons,

being open to change- methods, assumptions, hypotheses can change in the course of time,

openmindedness- taking into consideration the different several possibilities and, asking questions-what, when, where, how , why.

4.1.2. PROFESSIONALLY WRITTEN MEDICAL TEXTS

As it was mentioned above while examining the medical text types, in his book titled “A Textbook of Translation”, Peter Newmark categorizes the medical language under three headings. Among these three languages “Academic Language” and “Professional Language” are the closest to each other. While the academic language uses transferred terms from Latin and Greek, professional language uses the formal equivalents of these terms. According to Newmark, the academic language sphere is the medical faculty professor using Greco-Latin terms as they are, while the general professional would use the standard English word (1988: 153).

Just as the academic texts, professional texts are informative, too. They are denotative, not conotative. They are written by acknowledged authorities of the field and contain authoritative statements. According to Newmark, the core of the informative function of language is external situation, the facts of a topic, reality outside language, including reported ideas or theories. For the purposes of translation, typical informative texts are concerned with any topic of knowledge and the format of an informative text is often standard: a textbook, a technical report, an article in a newspaper or a periodical, a scientific paper, a thesis, minutes or agenda of a meeting. Newmark expresses two points related with the language used in informative texts:

(1) a formal, non-emotive, technical style for academic papers, characterised in English by passives, present and perfect tenses, literal language, latinised vocabulary, jargon, multi-noun compounds with empty verbs, no metaphors;

(2) a neutral or informal style with defined technical terms for textbooks characterised by first person plurals, present tenses, dynamic active verbs, and basic conceptual metaphors (1988: 40-41).

While categorizing the readers, Newmark points out that there are three typical reader-types:

(a) the expert (in the SL text culture and/or the subject of discourse);
(b) the educated layman;
(c) the ignoramus-in the culture and/or the topic, not to mention their degree of interest in the topic (1988: 55).

From this point forth, it will not be wrong to say that these reader types are directly in line with the text types. The expert reads and understands the academic text, the educated layman has no difficulty in reading and understanding the professional texts and the popularly written texts are suitable for the ignoramus-in the culture and/or the topic.

According to another point of view presented by Vihla, there are two main types of medical texts; professional texts and popular texts. According to Vihla, this distinction is based on the status of the intended readership. Professional texts addresses to the professional readers, i.e. researchers, practitioners, and students of medicine. She divides the professional texts into four among themselves: textbooks, handbooks, research articles and editorial articles (1998: 73-80).

The textbooks contain both scientific and clinical branches of medicine. Some textbooks give basic concepts and findings to a novice,

others present more practically oriented information to more advanced students.

Medical handbooks are just like technical manuals. There are chapters in the handbooks giving information about a disease or answering a medical question. Handbooks aim at presenting short and simple information about different diseases, their etiology, pathogenesis, symptoms, diagnosis, treatment, and prognosis. The target readers of the manuals are both practitioners and advanced students of medicine not the novices. These handbooks may be accepted as quick sourcebooks for these target readers.

Research articles which are also grouped as professionally written medical texts are published in medical journals and have a worldwide distribution. They are about different branches of medicine and they all are original articles presenting new findings based on the author's own study or research.

Editorials are also published in academic medical journals and new research results, treatment methods, doctor training, ethical side of medical practice are discussed in these editorials (Vihla, 1998: 73-80).

When the given information and examples related to the academically and professionally written medical texts are gathered, it can easily be noticed that they sometimes overlap each other. This is the reason why some translation scholars divide medical texts into just two as professionally written and popularly written texts, and why they do not include academically written texts into this division.

4.1.3. POPULARLY WRITTEN MEDICAL TEXTS

Newmark defines the popular medical language as layman vocabulary, which may include familiar alternative terms, e.g. 'mumps', 'chicken-pox, 'scarlet fever, 'stroke', 'lockjaw (1988: 153).

Vihla, on the other hand, defines popular texts of medicine as texts intended for the general readership, that is for those without medical training. The intended audience – not the authors' background – is used as the criterion for classification; the writers of popular texts include both laymen and medical professionals. She divides popularly written texts into two: guidebooks, newspaper / magazine articles (1998: 75).

Vihla expresses that a guidebook aims at helping the general reader with medical questions. The book discusses various diseases and disorders, explains the functions of different organs, discusses some risk factors and different treatments for the diseases. On the other hand, the research articles and editorials may be from general newspapers or magazines, as well as from specialized magazines others describe different diseases, discuss risk factors, and suggest forms of treatment.

4.2. METHODS CHOSEN IN THE TRANSLATION OF MEDICAL TEXTS

Before continuing with the translation methods, explaning the reasons why these methods are preferred in this study would be useful. In this thesis, in dealing with the translation of different types of medical texts, the translation methods raised by Vinay and Darbelnet have been employed for the categorization purposes. As mentioned in previous chapters, medical translation is a specalized field of scientific translation. In medical translation both the meaning conveyed through medical terms and the wording are equally important. Because, the results of mistranslations may be fatal. No

matter it is academically, professionally, or popularly written, all medical texts must be translated exactly and accurately and within the frame of established translation rules such as the ones proposed by Vinay and Darbelnet. For this reason, choosing and using the right translation methods are of vital importance for the focus of this study.

Hence, Vinay and Darbelnet present equivalence-oriented translation as a procedure which replicates the same situation as in the original, whilst using completely different wording. They also suggest that, if this procedure is applied during the translation process, it can maintain the stylistic impact of the SL text in the TL text (Vinay and Darbelnet, 1995: 342). They divide the translation methods mainly into two: **Direct Translation** and **Oblique Translation.**

When the characteristics of the academically and professionally written medical texts are taken into consideration, it can be observed that maintaining the terminology- in many cases this terminology is universal – with some tiny changes peculiar to the TL is essential and this means direct translation of the ST. In academically and professionally written texts, direct translation methods do not create any problems for the target reader, since the target readers are mostly medical professionals knowing the medical terminolgy and wording. On the contrary, while translating popularly written medical texts, if the direct translation methods are used, the target reader with no or little medical knowledge and background will not be able to understand even what the text is about. At this point what is needed is the oblique translation. Is it possible to reach such a specific division in respect to the translation methods? Though the answer of this question is frequently “Yes”, there are some exceptions that two methods are used together, too. The separately use of direct and oblique translation methods, and sometimes overlapping of the two will be explained on the sample texts in the following parts of this thesis.

4.2.1. DIRECT TRANSLATION

This thesis aims at comparing the different methods used in medical translation. No matter it is academically, professionally or popularly written, each text is a problem to solve for the translator. The translator has to compare the linguistic systems of the source and target languages both, then by accepting this as the starting point, he/she should draw a map of the target text in his/ her mind. According to Vinay and Darbelnet, the initial steps that the translator takes can be characterised as follows:

_ to identify the units of translation;

_ to examine the SL text; this consists of evaluating the descriptive, affective, and intellectual content of the units of translation;

_ to reconstitute the situation which gave rise to the message;

_ to weigh up and evaluate the stylistic effects, etc. (Vinay and Darbelnet, 1995: 30-31).

Vinay and Darbelnet say that:

> All these reflections upon the SL text as a whole and its units must lead to a target language message. Going through these processes in their mind translators search for a solution. In some cases the discovery of the appropriate TL unit or sentence is very sudden, almost like a flash, so that it appears as if reading the SL text had automatically revealed the TL message. In such a case translators still have to go over the text to ensure that none of the elements from the SL have been omitted before the process is finished (1995: 30-31).

According to Molina and Albir, in order to study the way translation works, some categories used in translations should be analyzed. They point out that these categories are related to text, context and process. Textual categories describe mechanisms of coherence, cohesion and thematic progression whereas contextual categories introduce all the extra-textual elements related to the context of source text and translation production. Process categories answer two basic questions: The first question is: “What are the options of the translator to carry out the translation ?”, that is “Which methods has the translator chosen?” The second question is: “How has the

translator solved the translational problems during the process?", that is "Which strategies has the translater preferred?" (Molina and Albir, 2002: 498-499).

It is clear that in order to be able to carry out any translation, translation methods are needed. In 1958, Vinay and Darbelnet wrote a book titled *Stylistique Comparée du Français et de L'anglais* .This was a pioneer work which classified and categorized the translation methods for the first time. The book created a great effect on the specialists of the field of translation and although Vinay and Darbelnet made this classification between English and French, their methods and classification were practised between French and German, and English and Spanish by other authors. In 1995, 37 years later, the book was translated into English by Juan C. Sager and M.J. Hamel. In their book, Vinay and Darbelnet point out that at first the different methods or procedures seem to be countless, but they can be condensed to just seven, each one corresponding to a higher degree of complexity. They add that in practice, they may be used either on their own or combined with one or more of the others.

Here it must be stressed that among translation scholars there is not an agreement about the methods used in translation process. This disagreement is related to both the terminological and conceptual levels and the scholars do not have a consensus even on the use of the same name for the translation categories. Some call above mentioned categories as techniques, some as procedures, while the others call them as methods or strategies. In this thesis, these categories will be referred as "methods" and the classification made by Vinay and Darbelnet will be adopted and practised as mentioned above.

According to Vinay and Darbelnet, translators can choose from two methods of translating, namely **direct**, or **literal translation** and **oblique translation**. They explain direct translation with these words:

In some translation tasks it may be possible to transpose the source language message element by element into the target language, because it is based on either parallel categories, in which case we can speak of structural paralellism, or on parallel concepts, which are the result of metalinguistic paralellisms. But translators may also notice gaps, or "**lacunae**", in the TL which must be filled by corresponding elements, so that the overall impression is the same for the two messages (Vinay and Darbelnet, 1995: 31).

In the direct translation method, Vinay and Darbelnet cite three procedures: These are **borrowing**, **calque** and **literal translation**.

4.2.1.1. BORROWING

According to Vinay and Darbelnet, to overcome a metalinguistic lacunae like a new technical process, an unknown concept, borrowing is the simplest of all translation methods. It may sometimes be used for creating a stylistic effect. For instance, in order to introduce the flavour of the SL culture into a translation, foreign terms may be used, e.g such Russian words as "roubles", "datchas" and "aparatchik", "dollars" and "party" from American English, Mexican Spanish food names "tequila" and "tortillas", Turkish food "döner" and "kebab" and so on (Vinay and Darbelnet, 1995: 32).

It is not wrong to say that in all languages, as an inevitable result of globalisation and communication, some of the borrowings are so commonly used that these borrowings have been accepted as if the original units of the target language. Some French borrowings have been used in Turkish as if they are originally Turkish. For example:

pyjama- pijama: İki parçadan oluşan yatak giysisi (http://tdkterim.gov.tr/bts),
radio-radyo: 1. Elektrik dalgalarının özelliğinden yararlanarak seslerin iletilmesi sistemi. 2. Elektrik dalgalarıyla düzenli olarak yayın yapan istasyon ve bu istasyonun programlarını düzenlemekle görevli kuruluş. 3. Bu istasyonun yayınlarını alan araç (http://tdkterim.gov.tr/bts),
principe-prensip: İlke (http://tdkterim.gov.tr/bts),

trottoir - tretuvar: yaya yolu, kaldırım (http://tdkterim.gov.tr/bts),
coupon -kupon: Piyango biçiminde düzenlenmiş çekilişlerde kesilerek kullanılan basılı parça (http://tdkterim.gov.tr/bts),
robe de chambre - ropdöşambır: Erkeklerin evin içinde kıyafetlerinin üzerine giydikleri üstlük (http://tdkterim.gov.tr/bts),
cure-dent-kürdan: Dişleri temizlemek için kullanılan küçük çöp (http://tdkterim.gov.tr/bts),
déjà vu- deja vü: yaşanılan bir olayı daha önceden yaşamışlık veya görülen bir yeri daha önceden görmüş olma duygusu (http://tr.wikipedia.org).

This is true for medical translation, too. Medical terminology often uses words created using prefixes and suffixes in Latin and Greek. In medical language the meanings, and the etymology of the terms are formed by the language of origin. As a general rule, Greek prefixes go with Greek suffixes and Latin prefixes with Latin suffixes. Although it is technically considered acceptable to create hybrid words, it is strongly preferred not to mix different lingual roots. Medical terminology is a vocabulary for accurately describing the human body and associated components, conditions, and processes in a science based manner. As it was described in detail in Chapter II, in medical language, the systematic approach to word building and term comprehension is based on the concept of: (1) word roots, (2) prefixes, and (3) suffixes. The word root is a term derived from a source language such as Greek or Latin and usually describes a body part. The prefix can be added in front of the term to modify the word root by giving additional information about the location of an organ, the number of parts, or time involved. Suffixes are attached to the end of a word root to add meaning such as condition, disease process, or procedure. So,the medical terminology which is formed by this way are used in all languages universally through borrowing.

4.2.1.2. CALQUE

According to definition made by Vinay and Darbelnet, a calque is a special kind of borrowing whereby a language borrows an expression form of another, but then translates literally each of its elements. The result is either

_ a lexical calque, as in the first example below, i.e. a calque which respects the syntactic structure of the TL, whilst introducing a new mode of expression; or

_ a structural calque, as in the second example, below, which introduces a new construction into the language, e.g.:

English-French calque

Compliments of the Season! : Compliments de la saison!

Science-fiction : Science-fiction

Just like borrowings, there are many fixed calques which, after a period of time, become an integral part of the language (Vinay and Darbelnet, 1995: 32).

As it was defined above a calque is a foreign word or phrase translated and incorporated into another language. In Turkish, as in the other languages, the examples of both the lexical and structural calque can be seen:

Skyscraper_ gökdelen

Screen saver_ ekran koruyucu

Laptop_ dizüstü

These are the examples of lexical calque since they are new expressions which fit in the syntax of the target language, i.e. Turkish.

Secretary General_ Genel Sekreter

This is an example of structural calque since the the syntax is changed in line with the structure of Turkish.

4. 2. 1. 3. LITERAL TRANSLATION

In their book “A Methodology For Translation”, Vinay and Darbelnet define that literal, or word for word translation is the direct transfer of a SL text into a grammatically and idiomatically appropriate TL text in which the translators’ task is limited to observing the adherence to the linguistic servitudes of the TL. After this definition they give the following examples from English to French:

I left my spectacles on the table downstairs.
J’ ai laissé mes lunettes sur la table en bas.
Where are you? Où êtes-vous?
This train arrives at Union Station at ten.
Ce train arrive à la gare Centrale à 10 heures.

According to Vinay and Darbelnet, in principle, a literal translation is a unique solution which is reversible and complete in itself. It is more common when translating between two languages sharing the same family and the same culture like French and Italian (Vinay and Darbelnet, 1995: 32).

In the above mentioned methods of direct translation, i.e. borrowing, calque and literal translation, it is not necessary to apply to any special stylistic procedures. Starting out from the same principle today, in the translation of scientific and technical texts machine translation has been widely used. This is due to the existence of parallel passages in the source and target texts and also due to the use of a standardised language in the scientific and technical texts. The suitability of these texts for direct translation and also for automatic translation stems substantially from the characteristics of these texts like precision, generalization, referential meaning, denotation, lexical affixation, use of abbreviations, acronyms, eponyms, standard expressions, scientific terminology, specialized items, and formulae.

4.2.2. OBLIQUE TRANSLATION

Oblique Translation techniques are used when the structural or conceptual elements of the source language cannot be directly translated without altering meaning or upsetting the grammatical and stylistics elements of the target language. Due to the structural and metalinguistic differences between the source and target language, there can be gaps in the translation and in this case direct translation is not possible. Hence the translator has to fill in these gaps by the corresponding elements in the target language.

Vinay and Darbelnet call these gaps as “lacunae” and they express that in order to make the overall impression the same for the two messages, the translator must fill in lacunae. They say that “It may, however, also happen that because of structural or metalinguistic differences, certain stylistic effects cannot be transposed into the TL without upsetting the syntactic order, or even the lexis. In this case it is understood that more complex methods have to be used which at first may look unusual but which nevertheless can permit translators a strict control over the reliability of their work: these procedures are called **“oblique translation methods”** (Vinay and Darbelnet, 1995: 31). Vinay and Darbelnet categorize the oblique translation methods under four headings. These are; **transposition, modulation, equivalence and adaptation**.

4.2.2.1. TRANSPOSITION

Grammatical structures are often different in different languages. Transposition is a process where parts of speech change their sequence when they are translated. For example; blue ball becomes boule bleue in French. In this method, the translator can replace a word category in the target language without altering the meaning of the source text. So the meaning is kept, while the word category is changed.

E.g. risk of fractures- kırık riski

Molina and Albir define transposition as a shift of word class, i.e. verb for noun, noun for preposition. They point out that when there is a shift between two signifiers, it is called crossed transposition, e.g. “He limped across the street” and ”Il a traversé la rue en boitant” (Molina and Albir, 2002: 499).

According to Vinay and Darbelnet, transposition involves replacing one word class with another without changing the meaning of the message. Beside being a special translation procedure, transposition can also be applied within a language. For example: “Il a annoncé qu’il reviendrait. “, “Geri döneceğini bildirdi.” can be re-expressed by transposing a subordinate verb with a noun, thus: “ Il a annoncé son retour”, “Geri dönüşünü bildirdi”. In this method, they call the source language expression as “the base expression” and the target language expression as “the transposed expression”. In another example they gave, Vinay and Darbelnet point out that the same expression has to be translated literally, but must also be transposed:

Dès son lever... : As soon as he gets / got up...
As soon as he gets up... : Dès son lever...
: Dès qu’il se lève...

They express that in this example, English allows no choice between the two forms, the base form being the only one possible. Inversely, however, when translating back into French, we have the choice between applying a calque or a transposition, because French permits either construction. In contrast, the two following phrases can both be transposed:

Après qu’il sera revenu... : After he comes back...: Geri döndükten sonra
Après son retour... : After his return... : Geri dönüşünden sonra

In this example, the verbs in the first sentences – revenir, come back, geri dönmek- have been replaced with the noun forms of these verbs –retour, return, dönüş-. The Turkish translations of the examples given by Vinay and Darbelnet have been added by the author of this thesis.

Vinay and Darbelnet say that "From a stylistic point of view, the base and the transposed expression, do not necessarily have the same value. Translators must, therefore, choose to carry out a transposition if the translation thus obtained fits better into the utterance, or allows a particular nuance of style to be retained. Indeed, the transposed form is generally more literary in character" (1995: 36).

4.2.2.2. MODULATION

Modulation is a shift in point of view. Whereas transposition is a shift between grammatical categories, modulation is a shift in cognitive categories (Molina and Albir, 2002: Vol. 47, 499-500).

Modulation is a semantic shift. Vinay and Darbelnet define modulation as a variation of the form of the message, obtained by a change in the point of view. According to them this change can be justified, no matter the translation is a literal, or even transposed one, if the grammatical utterance is considered unsuitable, unidiomatic or awkward in the TL. They classify modulation as "free or optional modulations" and "fixed or obligatory modulations".

A classical example of an obligatory modulation is the phrase, "The time when…", which must be translated as, "Le moment où…", although the original English phrase is not "The moment when". In the case of obligatory modulations, as in the above example, the translator should have a good knowledge of both source and target languages so that he /she can avoid awkward translations.

Vinay and Darbelnet postulate different types of modulation: abstract for concrete, cause for effect, means for result, a part for the whole, one part for another, reversal of terms, geographical change, active for passive, positive for double negative, and double negative for positive (Vinay and Darbelnet, 1995: 37). The type of modulation which turns a negative SL expression into a positive TL expression is more often as in the following examples:

“It is not difficult to show… “ can be expressed as “ It is easy to show …..” .

“Remember to bring the papers.” can be expressed as “Kağıtları getirmeyi unutma.”

4.2.2.3. EQUIVALENCE

Equivalence is to express something in a different way in the target language. It is used very often while translating the idioms, proverbs, lyrics of the songs, or slogans, movies. It is to present a statement in the ST with an accepted and recognized equivalent in the TL. In other words, equivalence is to substitute a TL statement for a SL statement which accounts for the same situation, even though there is no formal or semantic correspondence. It is to render a set phrase from the SL with a set phrase from the TL which expresses the same idea, although in a different way.

Vinay and Darbelnet stress that one and the same situation can be rendered by two texts using completely different stylistic and structural methods. The classical example of equivalence is given by the reaction of an amateur who accidentally hits his finger with a hammer: if he were French his cry of pain would be transcribed as, “Aïe!”, but if he were English this would be interpreted as, “Ouch!” If this is said in Turkish it would be translated as “Ayy”. Another striking case of equivalences are the many onomatopoeia of animal sounds, e.g.:

Cocorico : cock-a-doodle-do
Miaou : miaow
Hi-han : heehaw

Vinay and Darbelnet point out that these simple examples illustrate a particular feature of equivalences: more often than not they are of a syntagmatic nature, and affect the whole of the message. As a result, most equivalences are fixed, and belong to a phraseological repertoire of idioms, cliches, proverbs, nominal or adjectival phrases, etc. In general, proverbs are perfect examples of equivalences, e.g.:
Too many cooks spoil the broth. : Deux patrons font chavirer la barque.

: Horozu çok olan köyde sabah erken olur.

The method of creating equivalences is also frequently applied to idioms. “To talk through one’s hat” and “as like as two peas” can not be translated by means of calque (Vinay and Darbelnet, 1995: 38).

While translating from English to Turkish, or from Turkish to English, the method of equivalence is frequently used and it is possible to give limitless examples, such as:
Two cunning men will not try to make a dupe of each other. : İki cambaz aynı ipte oynamaz.
Save up something for a rainy day. : Ak akçe kara gün içindir.
An apple a day keeps the doctor away. : Güneş girmeyen eve doktor girer (ingilizceturkce.com).

To make a mountain out of a molehill : pireyi deve yapmak
To hit the roof : tepesi atmak
Barking up the wrong tree : cevabı yanlış yerde aramak
To keep one's fingers crossed : iyi şans dilemek

Out of the frying pan into the fire : yağmurdan kaçarken doluya tutulmak (ingilizcenet.com)

4.2.2.4. ADAPTATION

Adaptation occurs when something specific to one language culture is expressed in a totally different way that is familiar or appropriate to another language culture. It is a shift in cultural environment.

Vinay and Darbelnet see this method as the extreme limit of translation. They point out that it is used in those cases where the type of situation being referred to by the SL message is unknown in the TL culture. In such cases translators have to create a new situation that can be considered as being equivalent. Adaptation can, therefore, be described as a special kind of equivalence, a situational equivalence. They state that adaptations are particularly frequent in the translation of book and film titles. According to Vinay and Darbelnet an adaptation affects not only the syntactic structure, but also the development of ideas and how they are represented within the paragraph. Even though translators may produce a perfectly correct text without adaptation, the absence of adaptation may still be noticeable by an indefinable tone, something that does not sound quite right (Vinay and Darbelnet, 1995: 39).

“Cycling” for the French, **“cricket”** for the English, and **“baseball”** for the Americans can be a good example for adaptation.

4.3. SAMPLE TRANSLATIONS

Here, three different types of medical texts; academically written, professionally written and popularly written medical texts and their translations will be examined focusing on the target readers of each, respectively within the framework of the Skopos theory by means of employing Vinay and Darbelnet's translation methods in order to show that medical translation can best be practised by employing certain translation methods which have been explained in Chapter IV, Part 4.2. of this thesis within a theoretical background, namely, the Skopos theory, for the reasons shown in Chapter III, Part 3.1.1. and then each translation will be evaluated in respect to the translation methods used.

4.3.1. TRANSLATIONS OF SAMPLE ACADEMICALLY WRITTEN TEXTS OF MEDICINE

Here two academically written medical texts; one is the abstract of a medical article titled **"Cutting Balloon Angioplasty: The initial Results"**, the other is an official medical report titled **"Stent Thrombosis and Bleeding Complications After Implantation of Sirolimus-Eluting Coronary Stents in an Unselected Worldwide Population A Report From the e-SELECT (Multi-Center Post-Market Surveillance) Registry)"** and their translations will be examined. The first text and its translation were published in the Turkish Journal of Thoracic and Cardiovascular Surgery in July 1995 for presenting the initial results of a new medical technique called "Cutting Balloon Angioplasty". The second text was published in "Journal of the American College of Cardiology" in March, 2011. It was prepared with the attendance of twelve countries. The aim of the study was to ascertain the 1-year incidence of stent thrombosis (ST) and major bleeding (MB) in a large, unselected population treated with sirolimus-eluting stents (SES). Text 2 was

translated by the author of this thesis to further make a trial on the method of direct translation for an academically written text.

SAMPLE TEXT: 1

TRANSLATED PART OF THE ARTICLE

Cutting Balloon Angioplasty: The Initial Results

The success of the conventional PTCA is restristed due to acute closure; restenosis and very hard lesions which can not be dilated. With the intention of overwhelming these difficulties we dilated 15 lesions of 14 patients (12 men, 2 women; within the ages of 36 to 70) with the cutting balloon 3 or 4 longitudinally attached blades on it. The procedure was successful for all cases and the mean stenosis reduced from 83.6±9.3 % to 22.9 ± 12.7 %. The dilation was found to be insufficient at 5 and these were additionally treated with a conventional balloon angioplasty. At the first month examination all of them were free of symptoms and had negative stress test except one. This patient underwent a CABG operation because of deterioration of several lesions. Although not common the cutting baloon is in use for its low rate of complications and advantage at hard lesions. In our institute we applied the cutting balloon especially for very hard lesions which could not be dilated with conventional ballons and obtained succesful results. (http://tgkdc.dergisi.org/pdf/pdf_TGKDC_331.pdf)

TERMINOLOGY OF THE TRANSLATED PART

İnitial : inisiyal

cutting balloon(CB) : cutting balloon

angioplasty : anjiyoplasti

conventional : konvansiyonel

PTCA : perkütan translüminal koroner anjiyoplasti

acute closure : akut tıkanma

restenosis : restenoz

lesion : lezyon

dilate : dilate etmek

longitudinally : boylamasına, uzunlamasına olarak

blade : bıçak ağzı, jilet

case : vaka

mean stenosis : ortalama darlık oranı

dilation : dilatasyon, açolma, genişleme

conventional balloon angioplasty : konvansiyonel balon (anjiyoplasti)

examination : inceleme, kontrol

symptoms : semptomlar, belirtiler

CABG operation : koroner arter bypass greft operasyonu (KABG)

deterioration : bozulma, kötüye gitme

low rate of complications : düşük komplikasyon oranı

TRANSLATION

Cutting Balloon Anjiyoplastide İnisyal Sonuçlar

Servet ÖZTÜRK, Murat GÜLBARAN, Tevfik GÜRMEN, Muzaffer ÖZTÜRK

İ. Ü. Kardiyoloji Enstitüsü, Kardiyoloji Anabilim Dalı, Haseki

Konvansiyonel perkütan translüminal koroner anjiyoplastinin (PTKA) başarısı akut tıkanma ve geç restenoz yanında dilate edilemeyen çok sert lezyonlar nedeniyle kısıtlanmaktadır. Bu sorunları aşabilmek düşüncesiyle 14 hastanın (2 kadın, 12 erkek; 36-70 yaşları arasında) 15 lezyonunda üzerinde

uzunlamasına 3 ya da 4 adet jilet bulunan “cutting balloon” (CB) uygulandı. Vak’aların hepsinde başarı ile uygulanan işlem sonucunda %83.6±9.3 olan ortalama darlık oranı %22.9±12.7’ye indi. 5 vakada açılma yeterli bulunmadı, konvansiyonel balonla ek bir dilatasyon daha yapıldı. 14 olgunun 13’ü birinci ay kontrolünde semptomsuzdu ve iskemi bulgusu yoktu. Bir hastada restenoz saptandı. Eski lezyonların da ilerlemesi nedeniyle koroner arter bypass greft operasyonu (KABG) uygulandı. CB düşük komplikasyon oranı ve konvansiyonel PTKA’nın başarısını kısıtlayan sert lezyonlarda günümüzde yaygın olmasa da kullanımdadır. Kardiyoloji Enstitüsünde CB özellikle konvansiyonel PTKA ile dilate edilemeyen lezyonlarda kullanıldı ve başarılı sonuç elde edildi (GKD Cer Derg 1995;3:208-210).

4.3.1.1. EVALUATION OF THE TRANSLATION OF THE FIRST ACADEMICALLY WRITTEN TEXT

The translated text is an academically written article according to the text types and it was published in a prestigious Turkish Medical Journal titled ” Turkish Journal of Thoracic and Cardiovascular Surgery “. The article is composed of abstract, introduction, methods, results, discussions and bibliography parts. Here the abstract of the article will be examined and its translation will be evaluated. Since this is an academically written article, the language used is the academic language full of with Greek and Latin words forming its medical terminology. The translators of this text are the physicians who have also carried the research. As easily guessed, this article is not written for the patients or for the layman. Its target receivers are health professionals who belong to the academia similar to the translators who are also academics. For this reason, as it will be shown below, it can be said that **direct translation** methods have been used in the translation.

Use of borrowing:

As it is very well known medicine is one of the fields that is open to new discoveries, new techniques and new developments. For this reason, claming that probably everyday new terminology takes part in medical literature will not be wrong and exaggerative. Due to the rapid entrance of new medical terminology into literature and need for learning and using this terminology quickly, effectively and universally, borrowing is widely used in medical translation. As mentioned previously while examining the translation methods, according to Vinay and Darbelnet (1995: 32), to overcome a lacunae, usually a metalinguistic one (e.g. a new technical process, an unknown concept), borrowing is the simplest of all translation methods. In the translated part of the article 11 terms have been translated through **borrowing**.

İnitial : inisiyal

cutting balloon(CB) : cutting balloon

angioplasty : anjiyoplasti

conventional : konvansiyonel

PTCA : perkütan translüminal koroner anjiyoplasti

restenosis : restenoz

lesion : lezyon

dilation : dilatasyon

conventional balloon angioplasty : konvansiyonel balon (anjiyoplasti)

symptoms : semptomlar

CABG operation : koroner arter bypass greft operasyonu (KABG)

Use of calque:

A calque is a foreign word or phrase translated and incorporated into another language. Calque is a kind of borrowing, too. In the translation of the sample text, 4 terms have been translated through **calque.**

acute closure : akut tıkanma

dilate : dilate etmek

mean stenosis : ortalama darlık oranı

low rate of complications : düşük komplikasyon oranı

Use of literal translation:

Since this article is an academically written one, it has been translated through **literal translation**. As mentioned before, academically written texts aim at conveying the information and they have a formal style of writing. So, it is essential to keep both the meaning and the form in these texts. For this reason **literal translation** is widely preferred in academically written texts. For example:

“With the intention of overwhelming these difficulties we dilated 15 lesions of 14 patients (12 men, 2 women; within the ages of 36 to 70) with the cutting balloon 3 or 4 longitudinally attached blades on it.”

“Bu sorunları aşabilmek düşüncesiyle 14 hastanın (2 kadın, 12 erkek; 36-70 yaşları arasında) 15 lezyonunda üzerinde uzunlamasına 3 ya da 4 adet jilet bulunan “cutting balloon” (CB) uygulandı.”

Use of modulation:

As mentioned in Chapter IV, Part 4.2. while explaning the translation methods presented by Vinay and Darbelnet, modulation is a semantic shift. Especially use of passive for active and cause for effect are among very

commonly used modulations in scientific and medical texts. Hence, a sample sentence can be examined as such:

“The procedure was successful for all cases and the mean stenosis reduced from 83.6±9.3 % to 22.9 ± 12.7 %.”

“Vak’aların hepsinde başarı ile uygulanan işlem sonucunda %83.6±9.3 olan ortalama darlık oranı %22.9±12.7’ye indi.” **(use of passive for active modulation)**

Instead of saying “ İşlem bütün vakalarda başarılıydı.”, the translator has chosen to translate the sentence as “Vak’aların hepsinde başarı ile uygulanan işlem…..”. Here, in this sentence the translation method **“transposition”** has also been applied and while “The procedure was successful for all cases …” is an independant sentence in the English version, in the Turkish version it has turned to a clause indicating result.

“The dilation was found to be insufficient….”

“5 vakada açılma yeterli bulunmadı….” **(use of negative for positive modulation)**

Instead of saying, “5 vakada açılma **yetersiz bulundu**…the translator has chosen to translate the sentence as “5 vakada açılma **yeterli bulunmadı**….” most probably in order not to sound too negative or absolute.

SAMPLE TEXT: 2

ORIGINAL REPORT:

When compared with bare-metal stents, drug-eluting stents (DES) implanted during percutaneous coronary intervention (PCI) have markedly lowered the rate of restenosis and the need for repeat intervention. Stent thrombosis (ST), albeit an infrequent event, remains the main safety concern and long-term complication associated with

the use of both bare-metal stents and DES. Better implantation techniques and stent designs, safer and more effective antithrombotic therapy, and a greater compliance with antiplatelet regimens have all contributed to lowering the rate of ST. The reported rates of ST range from 0.7% to 1.7% in the first year and 0.2% to 0.6% in subsequent years, depending on the definition used, the type of DES implanted, and the population studied. The current European Society of Cardiology (ESC) guidelines recommend uninterrupted dual antiplatelet therapy (DAPT) for 6 to 12 months after DES implantation, followed by long-term single antiplatelet therapy. However, antithrombotic therapy is associated with a risk of bleeding, which is usually though not always commensurate with its efficacy. In patients undergoing treatment of acute coronary syndromes (ACS), bleeding is a notorious complication associated with a markedly worse prognosis and increased mortality. Little information has been collected prospectively to ascertain the incidence and consequences of bleeding in unselected patients undergoing DES implantation for indications other than ACS, and the relationship between long-term bleeding complications and ST in the general population of DES recipients remains unclear. With data from the e-SELECT(Multi-Center Post-Market Surveillance) registry, a prospective observational registry of patients who underwent implantation of sirolimus-eluting stents (SES), we focused on the 1-year incidence and consequences of ST and major bleeding (MB).

http://www.sciencedirect.com/science?_ob=ArticleURL&_udi

TERMINOLOGY OF THE ORIGINAL PART:

Abbreviations and Acronyms:

ACS _ acute coronary syndrome(s) : Akut koroner sendrom

DAPT _ dual antiplatelet therapy: Dual aniplatelet terapi

DES _ drug-eluting stent(s) : İlaç-salınımlı stent (İSS)

ESC _ European Society of Cardiology: Avrupa Kardiyoloji Derneği (ESC)

MACE _ major adverse cardiac event(s) : Majör advers kardiyak events (MACE)

MB _ major bleeding: Majör kanama

MI _ myocardial infarction: Miyokard enfarktüsü

PCI _ percutaneous coronary intervention: Perkütan koroner girişim

SES _ sirolimus-eluting stent(s): Sirolimus kaplı stent

ST _ stent thrombosis: Stent trombozu

bare-metal stents: çıplak-metal stentler

implant: implant, yerleştirmek

restenosis: restenoz

intervention: girişim

complication: komplikasyon

antithrombotic therapy: Antitrombotik terapi

compliance: kompliyans

antiplatelet regimens: Antiplatelet rejim

implantation: implantasyon

single antiplatelet therapy: tekli antiplatelet terapi

risk of bleeding: Kanama riski

efficacy: Etkinlik

undergo a treatment: tedavi görmek

prognosis: Prognoz

mortality: Mortalite

incidence: insidans

indication: endikasyon

TRANSLATION:

Çıplak - metal stentlerle karşılaştırıldığında, perkütan koroner girişim (PCI) sırasında takılan ilaç salınımlı stentler (DES) restenoz oranını ve yeni bir girişimde bulunma ihtiyacını önemli ölçüde azaltmıştır. Seyrek bir olgu olmasına rağmen Stent Trombozu (ST), yine de, ana güvenlik meselesi olmaya ve hem çıplak -metal stentlerin hem de DES' lerin kullanımıyla ilgili uzun vade komplikasyonlar açısından gündemde kalmaya devam etmektedir. Daha iyi implantasyon teknikleri ve stent tasarımları, daha güvenli ve daha etkili antitrombotik terapi ve antiplatelet rejimlerle daha fazla kompliyans faktörleri hepsi birlikte, ST oranının düşürülmesine katkıda bulunmuştur. Bildirilen ST oranları, kullanıldığı durumlara, takılan DES'in türüne ve çalışılan popülasyona bağlı olarak birinci yıl %0.7 ile % 1.7 arasında, ve takibeden yıllarda %0.2 ila %0.6 arasında değişmektedir. Halihazırdaki Avrupa Kardiyoloji Derneği (ESC) rehberleri DES implantasyonundan sonra 6-12 ay boyunca kesintisiz dual antiplatelet terapi (DAPT) ve sonrasında da uzun süre tekli antiplatelet terapi uygulanmasını önermektedir. Bununla birlikte, antitrombotik terapiye, her zaman olmasa bile etkinliğiyle orantılı seyreden bir kanama riski eşlik etmektedir. Akut koroner sendrom (ACS) tedavisi görmekte olan hastalarda kanama, daha da kötü gidişatlı bir prognozun ve artmış mortalitenin eşlik ettiği olumsuz seyreden bir komplikasyondur. ACS haricindeki endikasyonlar nedeniyle DES implantasyonu tedavisi gören özel bir seçimle belirlenmemiş hastalardaki kanama insidansını ve sonuçlarını tesbit etme amaçlı geleceğe ışık tutacak pek az bilgi elde edilmiştir ve uzun vadedeki kanama komplikasyonları ile DES tedavisi görmüş hastaların genel popülasyonundaki ST arasındaki ilişki de açıklığa kavuşmamıştır. Sirolimus kaplı stent(SES) implantasyonu tedavisi görmüş hastaların ileriye yönelik gözlemsel kayıtları olan, e-SELECT

kayıtlarından(Multi-Center Post-Market Surveillance-Çok Merkezli Pazarlama Sonrası Gözetim) alınan verilerle, ST ve majör kanamanın (MB) 1 yıllık insidansı ve sonuçlarına odaklanmaktayız.

4.3.1.2. EVALUATION OF THE TRANSLATION OF THE SECOND ACADEMICALLY WRITTEN TEXT

The translated text is an academically written report and it has all the characteristics of academic and scientific texts. It includes objectives, background, methods, results, discussions, study limitations, conclusions, acknowlegments and references. It also contains six tables and four figures showing and comparing the findings of the survey. The language used in the report is academic and hence full of with Latin and Greek words, and medical terminolgy. Here, the ones who will read the report, that is, the target receivers of the report are researchers, academics, and health professionals. When these target receivers are taken into consideration, it is obvious that they will have no difficulty with the hard terminolgy used in the report. For this reason, in the translation of the report titled "**Stent Thrombosis and Bleeding Complications After Implantation of Sirolimus-Eluting Coronary Stents in an Unselected Worldwide Population A Report From the e-SELECT (Multi-Center Post-Market Surveillance) Registry"** direct translation methods; **borrowing, calque and literal translation** have been used. Additionally, **modulation** method has been needed and used in the translation of one sentence.

Use of borrowing:

In the translated part of the report, there are 20 borrowed medical terms. While translating this report, related to the Turkish equivalents of these medical terms, doctors of "Angiography Labratory in İbn-i Sina Hospital, Ankara University" were consulted. Here are the borrowed terminology:

ACS _ acute coronary syndrome(s) : Akut koroner sendrom

DAPT _ dual antiplatelet therapy: Dual aniplatelet terapi

MACE _ major adverse cardiac event(s) : Majör advers kardiyak events (MACE)

MI _ myocardial infarction: Miyokard enfarktüsü

ST _ stent thrombosis: Stent trombozu

restenosis: restenoz

complication: komplikasyon

antithrombotic therapy: antitrombotik terapi

compliance: kompliyans

antiplatelet regimens: antiplatelet rejim

implantation: implantasyon

prognosis: prognoz

mortality: mortalite

incidence: insidans

indication: endikasyon

Lesion: lezyon

balloon angioplasty: balon anjiyoplasti

atherectomy: aterektomi

target lesion: target lezyon

index procedure: indeks/ endeks prosedürü

The term **“cutting balloon”** has been directly taken from English and used as it is.

Use of calque:

In the translation of the report, some terminology have been translated through **calque.** There are 9 calques in the translated part of the report:

DES _ drug-eluting stent(s) : İlaç-salınımlı stent (İSS)

ESC _ European Society of Cardiology: Avrupa Kardiyoloji Derneği (ESC)

MB _ major bleeding: majör kanama

PCI _ percutaneous coronary intervention: perkütan koroner girişim

bare-metal stents: çıplak-metal stentler

SES _ sirolimus-eluting stent(s): sirolimus kaplı stent

risk of bleeding: kanama riski

post-operative medical management: postoperatif medikal tedavi

Ethics committee: Etik Kurulu

Among these calques, European Society of Cardiology, risk of bleeding, and Ethics Committee are the examples of **structural calque**, because the syntax of the words have been changed according to the rules of Turkish. Others are **lexical calques**, because the syntax of the SL is relevant to the syntax of TL.

Use of literal translation:

Here the translated sample text is an academically written one. In academically written texts, as mentioned while examining academically written texts as text types, conveying both the meaning and the style is important. For this reason, in the translation of the report “**Literal Translation**” has also been used. For example:

When compared with bare-metal stents, drug-eluting stents (DES) implanted during percutaneous coronary intervention (PCI) have markedly lowered the rate of restenosis and the need for repeat intervention.

Çıplak- metal stentlerle karşılaştırıldığında, perkütan koroner girişim (PCI) sırasında takılan ilaç salınımlı stentler (DES) restenoz oranını ve yeni bir girişimde bulunma ihtiyacını önemli ölçüde azaltmıştır.

When the English and Turkish sentences are compared structurally, it is seen that grammatical structure and the punctuation of the source sentence have been maintained in the target text through **literal translation**. The use of passive voice is very common in the academically written texts, so the passive English sentences have been translated into Turkish as passive, too.

Use of modulation:

While translating the sentence;

"….**and the relationship between long-term bleeding complications and ST in the general population of DES recipients remains unclear.**" **modulation** has been used :

"ve uzun vadedeki kanama komplikasyonları ile DES tedavisi görmüş hastaların genel popülasyonundaki ST arasındaki ilişki de açıklığa kavuşmamıştır.

In the English sentence " verb remain" shows a positive state, but use of adjective "unclear" turns the meaning into negative. In the Turkish translation, the negativity has been given to the verb- açıklığa kavuşmamak- and also, in the Turkish version, the adjective "unclear " has been turned to the noun "açıklık", through **modulation**. Although "remains unclear" can be translated as " belirsiz kalmıştır", the choice of "açıklığa kavuşmamıştır" is more convenient to Turkish semantically.

4.3.2. TRANSLATION OF A SAMPLE PROFESSIONALLY WRITTEN TEXT OF MEDICINE

This professionally written text has been cited from Merck and The Merck Manuals. Merck and The Merck Manuals is a wellknown medical book. The book was printed in English and Turkish for the purpose of being used as a text book for Turkish medical students. The Turkish version was both printed and published online. Both versions were translated by a group of Turkish doctors each of them is specialist in his/her medical branch. The English version of The Manuals is now also available in enhanced online versions of healthcare books for medical professionals and consumers as part of The Merck Manuals Online Medical Library. Sinusitis has been taken from the section of " Ear, Nose, Throat, and Dental Disorders" in the online book (www.merckmanuals.com). Translation of "Sinusitis" has been taken from February 2002 edition of the Turkish Merck.

THE ORIGINAL TEXT

Sinusitis

Etiology

Sinusitis is inflammation of the paranasal sinuses due to viral, bacterial, or fungal infections or allergic reactions. Acute sinusitis is usually precipitated by viral URI, followed by secondary bacterial colonization with streptococci, pneumococci, Haemophilus influenzae, Moraxella catarrhalis, or staphylococci. Chronic sinusitis may be exacerbated by gram-negative bacilli or anaerobic microorganisms. In a few cases, chronic maxillary sinusitis is secondary to dental infection.

In a URI, the swollen nasal mucous membrane obstructs the ostium of a paranasal sinus, and the O2 in the sinus is absorbed into the blood vessels of the mucous membrane. The resulting relative negative pressure in the sinus (vacuum sinusitis) is painful. If the vacuum is maintained, a transudate from the mucous membrane develops and fills

the sinus; the transudate serves as a medium for bacteria that enter the sinus through the ostium or through a spreading cellulitis or thrombophlebitis in the lamina propria of the mucous membrane. An outpouring of serum and leukocytes to combat the infection results, and painful positive pressure develops in the obstructed sinus. The mucous membrane becomes hyperemic and edematous.

http://www.ubmed.com/merckmanual/ub/view/Merck-Manual-

TERMINOLOGY OF THE ORIGINAL TEXT:

Etiology : Etiyoloji

sinusitis : sinüzit

İnflammation : inflamasyon, iltihap, yangı

paranasal sinuses : paranazal sinüsler

viral : viral, virüse ait

bacterial : bakteriyel, bakteriye ait

fungal : mantar (ile ilgili)

infection : enfeksiyon

allergic : alerjik

reaction : reaksiyon, tepki

acute sinusitis : akut sinüzit

URI (Upper Respiratory Infection) : ÜSYE (Üst Solunum Yolu Enfeksiyonu)

secondary : ikincil, sekonder

Colonization : kolonizasyon

Streptococci : streptokoklar

Pneumococci : pnömokoklar

haemophilus influenzae : haemophilus influenza

moraxella catarrhalis : moraxella catarrhalis

staphylococci : stafilokoklar

chronic : kronik, müzmin, süreğen

gram-negative bacilli : gram-negatif basiller, çomaklar

anaerobic microorganisms : anaerobik mikroorganizmalar, havasız ortam mikroorganizmaları

maxillary sinusitis : maksiller sinüzit

dental infection : diş infeksiyonu

nasal : nazal, buruna ait

mucous membrane : mukoza zarı

ostium : ostiyum

blood vessels : kan damarları

absorb : absorbe etmek, emmek, içine almak

relative : rölatif, nispi

vacuum sinusitis : vakum sinüzit

vacuum : hava boşluğu, vakum

transudate : transüdat, bir zardan geçen madde

medium : mediyum, ortam

bacteria : bakteriler

spreading : yayılma, yayılım

cellulitis : selülit

thrombophlebitis : tromboflebit

lamina propria : lamina propria, mukoza tabakasının bağ dokusu

outpouring : dökülme, taşma

serum : serum

leukocytes : lökositler

obstructed : tıkalı, tıkanan, tıkanmış

hyperemic : hiperemik, bir dokuda damarların genişlemesi sonucu kan artmasına bağlı olarak oluşan kırmızılık

edematous : ödematöz, ödemli

TRANSLATION:

Sinüzit

Etiyoloji

Sinüzit paranazal sinüslerin viral, bakteriyel veya fungal infeksiyonlarına veya alerjik reaksiyonlarına bağlı olarak gelişen iltihabi bir olaydır. Akut sinüzite streptokoklar, pnömokoklar, haemophilus influenzae, moraxella catarrhalis veya stafilokoklar neden olur, akut sinüzit sıklıkla, akut viral solunum yolu infeksiyonuna bağlı olarak gelişir. Kronik sinüzit, gram negatif çomaklar veya anaerob mikroorganizmalar nedeniyle alevlenebilir. Olguların bir bölümünde kronik maksiller sinüzit diş infeksiyonlarına sekonder olarak gelişir.

Üst solunum yolu infeksiyonu ile şişen burun mukozası, paranazal sinüslerin ostiyumunu kapatır, sinüs içindeki O2 mukozadaki damarlar tarafından emilir. Sonuç olarak sinüste gelişen kısmi negatif basınç (vakum sinüziti) ağrılıdır. Vakum devam ederse mukozadan oluşan transüda sinüsü doldurur; sinüse ostiyumdan giren veya mukozanın lamina propriasında selülit veya

tromboflebit yaparak yayılan bakteriler için ortam hazırlar. İnfeksiyonla mücadele etmek için serum ve lökositler ortama gelir ve tıkanan sinüste ağrılı positif basınç oluşturur. Mukoza hiperemik ve ödemli bir durum alır (The Merck Manual Türkçe, 2002: 688).

4.3.2.1. EVALUATION OF THE TRANSLATION OF THE PROFESSIONALLY WRITTEN TEXT

This text is a professionally written one about a disease called “Sinusitis” and it is from a medical course book written for medical professionals and students alike. Following a general information about the disease, It includes sections of “etiology, symptoms and signs, diagnosis, treatment, and sinusitis in immunocompromised patients”. It can easily be seen that in “Sinusitis” there is an intensive use of Greek and Latin medical terminology just as in the two academically written medical texts examined above Chapter IV, Part 4.3.1.

Since the target readers of the professionally written medical texts are educated, maybe professional readers, i.e. researchers, practitioners, and students of medicine, here the translator has prefered to choose more common equivalents of the medical terminology in the text. The reason for this is the target reader. These target receivers probably will not have any difficulty in understanding the text, therefore, it is possible for the translator to be more flexible in giving the Turkish equivalents of the medical terminology, but this flexibility must not be thought as the use of everyday language, since the text is a professional and informative one and as it was mentioned before, while the academic language uses transferred terms from Latin and Greek, professional language uses the formal equivalents of these terms.

Use of borrowing:

While translating the body parts; For example; **paranasal sinuses-** paranazal sinüsler, **ostium-** ostiyum, **lamina propria-** lamina propria**, leukocytes-** lökositler

While translating the symptoms and signs of the diseases; For example; **allergic-** alerjik**, viral-** viral, **bacterial-** bakteriyel**, fungal-** fungal**, infection-** infeksiyon**, reaction-** reaksiyon**, symptoms-** semptomlar**, chronic-** kronik**, acute-** akut**, colonization-** kolonizasyon**, hyperemic-** hiperemik.

While translating the names of the diseases; For example; **sinusitis-** sinüzit**, haemophilus influenzae-** haemophilus influenzae**, vacuum sinusitis-** vakum sinüzit**, cellulitis-** selülit**, thrombophlebitis-** tromboflebit**.**

While translating the names of viruses, bacteria and fungi;

For example; **Streptococci-** streptokoklar**, pneumococci-** pnömokoklar**, moraxella catarrhalis-** moraxella catarrhalis**, staphylococci-** stafilokoklar**, bacteria-** bakteriler**.**

While translating some nouns frequently used in medical terminology;

For example; **etiology-** etiyoloji**, transudate-** transüdat**, serum-** serum**.**

Use of calque:

Some of the medical terms in the text have been translated through **calque**. Here are some examples:

URI (Upper Respiratory Infection) : ÜSYE (Üst Solunum Yolu Enfeksiyonu)

mucous membrane : mukoza zarı

nasal obstruction : burun tıkanıklığı

swollen nasal mucous membrane : şişmiş burun mukoza zarı

gram-negative bacilli : gram-negatif basiller, çomaklar

dental infection : diş infeksiyonu

Use of literal translation:

Since “Sinusitis” is a professionally written medical text, and these texts have similar characteristics with the academically written texts- some translation scholars classify both texts under the same heading as “Professionally written texts” (Vihla, 1998: 73-80)-, “literal translation” has been used in the translation of this professionally written text, too. For example:

“Sinusitis is inflammation of the paranasal sinuses due to viral, bacterial, or fungal infections or allergic reactions.”

“Sinüzit paranazal sinüslerin viral, bakteriyel veya fungal infeksiyonlarına veya alerjik reaksiyonlarına bağlı olarak gelişen iltihabi bir olaydır.”

“Chronic sinusitis may be exacerbated by gram-negative bacilli or anaerobic microorganisms.”

“Kronik sinüzit, gram negatif çomaklar veya anaerob mikroorganizmalar nedeniyle alevlenebilir.”

As it can be seen, grammatical structure and the punctuation of the source sentences have been maintained in the target text, through **literal translation**.

4.3.3. TRANSLATION OF A SAMPLE POPULARLY WRITTEN TEXT OF MEDICINE

“Dr Luisa Dillner's guide to ... preventing osteoporosis” is an article published in “The Guardian” . This article appeared on p15 of the G2 section of the Guardian on Tuesday 29 March 2011. It was published on guardian. co.uk at 07.00 BST on Tuesday 29 March 2011. It is a good example for popularly written medical texts. The author of the article is a doctor and she writes a column titled “Dr Luisa Dillner's guide to …..” in The Guardian. This passage was translated into Turkish by the author of this thesis for women, especially for the elderly ones.

TRANSLATED PART OF THE TEXT

Dr Luisa Dillner's guide to ... preventing osteoporosis

To strengthen your bones now, eat plenty of calcium and get lots of exercise, especially if you're a woman

Luisa Dillner

The Guardian, Tuesday 29 March 2011

Osteoporosis is a condition in which bones become thinner and weaker, increasing the risk of fractures in your hips, wrists and spine (around the chest and lower back regions). Most people don't know they have it until they break a bone.

When do you get it?

Bone is constantly renewed. But in osteoporosis, the new bone is more brittle and there is less of it. Your bone mass (which peaks in your 30s when your bones are at their strongest) gradually gets reduced. It's a natural part of ageing, but best delayed as long as possible. As well as breaks, it can make you stoop and cause back ache.

What causes it?

No one knows, but it increases with age and is more common in women because they have smaller bones and lose bone faster after the menopause. But it is a problem for men too.”

Women who have an early menopause have an increased risk. If anyone in your family had osteoporosis (including your mother, father and sisters), or broke a bone when they were over 50 following a trivial injury, or had a kyphosis (a hump on the upper back), then your risk rises. Being underweight (especially if you have had anorexia nervosa) increases your risk, as does smoking – female smokers have a 2% lower bone mineral density each decade after the menopause compared to non-smokers. Some medical conditions such as Crohn's disease also increase your risk, as do some medicines for epilepsy and breast cancer. Drinking more than three units of alcohol a day is thought to reduce your bone mineral density, but the evidence is not as strong as for other risk factors. It used to be thought that caffeine might be a problem but research doesn't show this.

What can I do to prevent it?

Think ahead. You need to have stopped smoking for 10 years to see an improvement in your bone mineral density. Get your bones (and those of your children) in as good a shape, with as high a mineral density as possible in your (and their) 30s. Do this by eating enough calcium – in dairy products, sardines and spinach. You also need vitamin D to absorb calcium properly, so go out in the sun (without sunscreen) for 10-15 minutes a day but not in peak sunshine hours (10am-4pm). And exercise. Exercise in adolescence improves density for years after the menopause. You should encourage younger children to skip, play football and netball and to drink milk.

But it's never too late. If you exercise and drink milk in your 40s, you still reduce your risk of osteoporosis. Exercise should be weight-bearing to stimulate bone cells – so jogging, walking or gardening. Research says you need 100mg of calcium a day (one pint of milk and 50g (2oz) of hard cheese) to reduce your risk of hip fracture by nearly a quarter.

How do I know if I have it?

If you have a fracture after a minimal injury or have a family history you should suspect it, but you will only know for sure with a dual-energy x-ray absorptiometry scan. Then there are drugs you can take to improve your bone mineral density.

TERMINOLOGY OF THE ORIGINAL TEXT

Osteoporosis : osteoporoz, kemik erimesi

Spine : omurga

lower back : (vücutta) bel

chest : göğüs

fracture : fraktür, kırık

brittle : kolay kırılır, kırılgan

bone mass : kemik yoğunluğu, kemik kütlesi

stoop : hafif kambur olmak, kambur durmak

menopause : menopoz

kyphosis : kifoz, omurga eğriliği

hump : kambur

underweight : normaldan az ağırlığı olan

anorexia nervosa : anoreksiya nevroza, yemek yememe hastalığı (yeme bozukluğu)

bone mineral density : kemik mineral dansitesi, kemik mineral yoğunluğu

crohn's disease : crohn hastalığı

epilepsy : epilepsi, sara hastalığı

adolescence : adolesan, ergenlik çağı

weight-bearing : ağırlık taşıyan, ağırlık/ağırlığını taşıma

stimulate : stimüle etmek, canlandırmak, uyarmak

bone cells : kemik hücreleri

calcium : kalsiyum

dual-energy : dual-enerji

x-ray : röntgen

x-ray absorptiometry : x-ray absorbsiyometri

scan : tarama

dual-energy x-ray absorptiometry : Dual-Enerji X-Ray Absorbsiyometri (DEXA)

Dual-Enerji X-ray Absorbsiyometri (DEXA): DEXA moleküler düzeyde vücut kompozisyonu tayininde kullanıma giren hızlı, kolay, noninvazif bir tekniktir. DEXA farklı enerji seviyelerine sahip 70 ve 140 kev'lik iki enerji seviyesinin dokulardaki soğurulma miktarının saptanması ile kemik ve yumuşak doku birbirinden ayrılır. DEXA ile üç kompartıman modelinde yer alan yağ, kemik ve yağsız vücut kitlesi tayinleri tüm vücutta veya segmental olarak bir ekstremitede yapılabilmektedir(Sifîl, Çavdar, Çelik, Yeniçerioğlu, Ersoy, Özaksoy and Çamsan, 2001: 245).

TRANSLATION

Dr Luisa Dillner'ın Kemik Erimesini Önleme Rehberi

Kemiklerinizi şimdi güçlendirmek için, bol miktarda kalsiyum alın, çok egzersiz yapın, özellikle de kadınsanız

Kemik erimesi, kemiklerin kalçalarınızda, bileklerinizde ve omurganızda (göğüs çevresinde ve bel bölgesinde) kırık riskinin artmasına yol açacak şekilde inceldiği ve zayıfladığı bir durumdur. Çoğu insan bir kemiğini kırana dek, kemik erimesi olduğunu bilmez bile.

Ne zaman kemik erimesine yakalanırsınız?

Kemik devamlı olarak yenilenir. Ancak kemik erimesinde, yeni kemik daha kolay kırılan bir yapıdadır ve kemik dokusu pek azdır. Kemiklerinizin en güçlü olduğu 30'lu yaşlarda zirve yapan kemik yoğunluğunuz gitgide azalır. Bu, yaşlanmanın doğal bir parçasıdır, ancak ne kadar geciktirilebilirse, sizin için o kadar iyi olur. Kemik erimesi, yalnızca kırıklara yol açmakla kalmaz, sizi kamburlaştırabilir ve sırtınızı da ağrıtabilir.

Neler kemik erimesine neden olur?

Sebebini kimse bilmiyor, ama kemik erimesi yaş ilerledikçe artar ve kadınlarda daha yaygındır, çünkü kadınların kemikleri daha incedir ve menopozdan sonra kemik kayıpları hızlanır. Ancak kemik erimesi erkekler için de problem yaratır.

Erken menopoza giren kadınlarda risk artar. Eğer ailenizden biri kemik erimesi olduysa (anneniz babanız ve kız kardeşleriniz gibi), ya da bu kişiler 50 yaşın üstünde önemsiz bir kazanın ardından bir kemiklerini kırdılarsa veya omurgalarında eğrilik varsa (ya da sırtları kambursa), böyle bir durumda sizin için risk artar. Normalden daha az kilolu olmak (özellikle yemek yememe hastalığına yakalandıysanız), tıpkı sigara içmek gibi-sigara içmeyenlerle karşılaştırıldığında, sigara içen kadınlar menopozdan sonraki her on yıl için, % 2 daha düşük kemik mineral yoğunluğuna sahiptir- hastalık riskinizi arttırır.

Crohn hastalığı gibi bazı tıbbi durumlar da, tıpkı bir kısım sara hastalığı ve göğüs kanseri ilaçlarının yaptığı gibi kemik erimesi riskini arttırır. Günde üç birimden fazla alkol almanın kemik mineral yoğunluğunuzu azalttığı düşünülse de, bu konudaki kanıtlar diğer risk faktörlerininkiler kadar kuvvetli değildir. Eskiden kafeinin problem yaratabileceği zannedilirdi, ancak araştırmalar böyle bir sonuca işaret etmemektedir.

Kemik Erimesini Önlemek İçin Ne Yapabilirim?

İlerisini düşünün. Kemik mineral yoğunluğunuzda bir düzelme görebilmeniz için 10 yıldır sigarayı bırakmış olmanız gerekiyor. Kendi kemiklerinizi ve çocuklarınızın kemiklerini, sizin ve onların 30'lu yaşlarınızda mümkün olabilecek en yüksek mineral yoğunluğu ile formda tutun. Bunu yeterince kalsiyum yani, süt ürünleri, sardalya ve ıspanak tüketerek yapın. Kalsiyumun tam olarak emilimini sağlamak için, D vitaminine itiyacınız vardır, bu yüzden güneş kremi kullanmadan günde 10-15 dakika güneşe çıkın, ancak sabah 10.00 ile öğleden sonra 16.00 arasında yani güneşin dik geldiği saatlerde çıkmayın. Ve egzersiz. Ergenlik çağında yapılan egzersiz, menopoz sonrası

yıllarda kemik yoğunluğunu iyileştirir. Küçük çocukları ip atlamaları, futbol ve basketbol oynamaları ve süt içmeleri için teşvik etmelisiniz.

Ancak şimdi de geç kalmış sayılmazsınız. Eğer 40' lı yaşlarınızda egzersiz yapar ve süt içerseniz, kemik erimesi riskini yine de azaltmış olursunuz. Kemik hücrelerini uyarmak için, yapılan egzersiz jogging, yürüyüş ve bahçe işleri gibi, ağırlık taşımalı bir egzersiz olmalı. Araştırmalar kalça kırığı riskini yaklaşık dörtte bir oranında azaltmak için günde 100 mg kalsiyuma (yani yarım litre süte ve 50 g sert peynire) ihtiyacınız olduğunu söylüyor.

Kemik erimesi olduğumu nasıl anlarım?

Eğer küçük bir incinme sonrasında kırığınız olursa, ya da aile geçmişinizde kemik erimesi varsa, şüphelenmelisiniz, ancak bunun en kesin yolu "Dual-Enerji X-ray Absorbsiyometri" tekniğiyle kemik yoğunluğu taraması yaptırmanızdır. Sonrasında, kemik mineral yoğunluğunu iyileştirmek için alabileceğiniz ilaçlar vardır.

Dual-Enerji X-ray Absorbsiyometri (DEXA): DEXA vücuttaki yağ, kemik ve yağsız vücut kitlesi kompozisyonunun tayininde kullanıma giren hızlı, kolay bir tekniktir.

4.3.3.1. EVALUATION OF THE TRANSLATION OF THE POPULARLY WRITTEN TEXT

When the popularly written text titled **"Dr Luisa Dillner's guide to ... preventing osteoporosis"** is examined, it is seen that like all other popularly written medical texts, this text, too, aims at conveying medical knowledge to general public. So, the translator has to use a language which can be understood by the layman in line with the intended skopos of the translation. Here the translator's commissioner is the ordinary audience with avarege medical knowledge and the translator's task is to make the TL text easily readable and understandable for the audience. Here what draws the frame of the translation and the choices of the translator is the target reader.

First if we handle the title, the term “osteoporosis”, could be translated into Turkish as **“Osteoporoz”** through borrowing, if this were an academically or professionally written text. But for the ordinary Turkish newspaper or magazine reader, the term **“Kemik Erimesi”** is more understandable and usual in comparison with the term “osteoporoz”. The Turkish reader who reads just the title **“Kemik Erimesi”**, even without reading the rest of the article, can have an idea about what kind of an illness “kemik erimesi” is, moreover he/she can easily imagine that this disease is related with the loss of bones. If the same reader reads the title “**Osteoporoz**”, he/she may have no idea about what kind of a disease it is and which parts or organs of the body it affects.

In the first paragraph of the SL text, although there is not the word “even”, in the TL text the word “**bile**” was added to the sentence, since it was a newspaper article and was written as if spoken to the reader.

“Most people don't know they have it until they break a bone.”

“Çoğu insan bir kemiğini kırana dek, kemik erimesi olduğunu bilmez **bile.**”

The sentence “ **It's a natural part of ageing, but best delayed as long as possible.**” was translated as “ **Bu, yaşlanmanın doğal bir parçasıdır, ancak ne kadar geciktirilebilirse, sizin için o kadar iyi olur.** Here, through **“equivalence”,** saying that **“sizin için o kadar iyi olur”** seems a more suitable translation for the Turkish readers.

Since this is a popularly written text, instead of saying “epilepsi”, the popular name of the disease, “sara hastalığı”, instead of saying “anorexia nervosa”, the popular name of the disease “yemek yememe hastalığı” have been preferred by the translator. Another disease called **“Crohns disease”** is an eponym and it has been translated through “calque” as “Crohns hastalığı”.

The sentence **“Think ahead”** was translated as **“İlerisini düşünün.”** through **“equivalence”.** The same translation method, that is,

“equivalence” was used for the translation of the sentence **“But it’s never too late.”, “Ancak şimdi de geç kalmış sayılmazsınız.”**

The word **”exercise**” has been translated as **“egzersiz”** through **borrowing** and it is a good example of some widely used borrowings which are no longer considered as borrowing but the original part of the TL lexicon.

In the text among the suggested sports for preventing osteoporosis, there is a sport called **“netball”. “Netball”** is a team game similar to basketball, played mainly by women. It is a popular game in girls' schools in England and several other British Commonwealth countries, similar to six-player girls' basketball in the United States. (www.dictionary.reference.com)

For the Turkish reader, **“netball”** has been translated as **“basketball”** through **“adaptation”** since there is not such a sport in Turkey. Similarly, since there is not a Turkish equivalent of **“jogging”,** it has been translated as **“jogging”** through **borrowing.** Among the suggestions against osteoporosis, we see this sentence: “**Exercise should be weight-bearing to stimulate bone cells – so jogging, walking or gardening.”**

“Weight-bearing exercise” is a physical activity in which muscles and tendons apply tension to bones, stimulating them to produce more bone tissue. The best exercises for building bone are weight-or load-bearing exercises. These exercises include weight-lifting, jogging, hiking, stair-climbing, step aerobics (www.ask.com).

The translation of the above sentence is:

“Yapılacak egzersiz jogging, yürüyüş ve bahçe işleri gibi, kemik hücrelerini uyarmaya yarayan ağırlık taşımalı bir egzersiz olmalı.”

As it is seen, here there are two choices for the translator: **Borrowing** the word **“Weight-bearing”** and translating the expression as **“weight bearing egzersiz”-** in this case most of the readers could not understand the

meaning of the expression- or as it was in the above translation; translating the expression by explaining it as **“ağırlık taşımalı egzersiz”.**

In the last paragraph of the sample popularly written text, a diagnosis technique called “**a dual-energy x-ray absorptiometry scan”** is suggested to the readers. Since the target reader of this popularly written text will not be able to know what this technique is, an explanation of it was given by the translator as a footnote.

Here another method used is **“transposition”**. The word **“p.m.”** was translated as **“öğleden sonra”** through **“obligatory transposition”**, because there is not a Turkish equivalent of this abbreviation.

CHAPTER V: CONCLUSION

Translation is, to define briefly among many other definitions, an act of reading the source text, processing and transferring it, and then reproducing it in the target language. A translation problem can occur in any of these steps either on micro or on macro level. According to Montalt and Davies, if there is a problem in a text segment, this is a micro level problem, if the problem is in the text as a whole, in this case it is a macro level problem (2007: 169). No matter what type the text to be translated is, every translation is a problem to solve for the translator and a translation process is a continuum composed of a range of decisions made by the translator. These decisions all compel the translator to apply a suitable translation strategy and to choose the right and correct translation methods and procedure. There lie many options, decisions and solutions in front of the translator. Montalt and Davies express this decision making process of the translator with these words:

> A translation strategy links the goals of the translation assignment with the necessary procedures to attain these goals in a given translation context by means of a group of coordinated decisions: paralel or logical thinking, resourcing, classifying, selecting, playing with words, accessing semantic fields and schemata, looking at procedures lists, scanning published translations etc. (Montalt and Davies, 2007: 169).

Hoorickx-Raucq calls attention to the significance of the first reading and comprehending the scientific content of the source text with those words:

> Seeing the translator as a mediator whose socio-cultural background may be influential opens up wider perspectives. *Scientific American*, just like *Nature* or *Astronomy*, include articles written by experts for a well-informed yet non-expert readership. Translating papers from such publications involves a number of recurrent cultural difficulties, either textual or cognitive. Understanding the scientific content of the article in order to form a first ‘map’ or ‘mental conception of the original text’ remains of course a most difficult first step before any other moves can be made (2005, Issue: 03).

The solutions that will be found to the translation problems by the translator should be to the purpose. In this thesis, materializing medical translation in the light of the Skopos theory has been explained and tested in sample passages. It has been observed that the translator has to find the right solutions and translation methods not only according to the text type, but also according to the target receiver of the text. The needs and intentions of the target receiver should be analyzed accurately and thoroughly by the translator. Here, another problem which is observed very often is that if the translator uses the same methods, the same terminology, and the same style for each recipient and for different types of medical texts, the result will be a real chaos and this translation will be far away from the basic prerequisites of medical translation. Since there are no connotations in medical and scientific texts as mentioned in 2.1.1. “Medical texts as informative texts”, rendering the source text message, skopos or purpose in the target text is of great importance.

As for form of a scientific text, the basic format of a scientific paper consists of introduction, materials and methods, results, and discussion. But since most of the medical authors are not professional authors and also most of them write in their mother tongue, the translator is usually face to face with poorly written medical texts. He/she has to struggle with either the form or the less writing care of the medical author, too. It is necessary to keep in mind that some of the medical authors expect and ask medical translators to revise and edit what they wrote before the translation process.

Fischbach writes the following about formatting in medical translation:

> It may surprise many translators to know, therefore, that many scientists, particularly physicians, do not follow the format as perhaps they should. Even when they get the headings correct, some authors include appropriate information in an inappropriate section; for example, they incorporate arguments from the discussion section in the introduction. Moreover, the basic format excludes important elements, specifically the title,

> abstract, and conclusion, to which the translator needs to pay special attention (1998, Volume 10: 109).

Another vitally important point is the terminology used in medical texts. The translator has to deal with the terms of anatomy, diseases, drugs, syndromes, indications, side effects, and medical equipments and devices which are specific to the field of medicine. So, the translator has to be familiar with this specific terminology and to know how to cope with it. He/she has to know both the source and the target languages very well in order to solve the terminological problems like synonyms, antonyms, neologisms, and polysemy. Therefore, an extensive research related to the medical terms should be made by the translator. If the problems with the terminology still go on, the translator should examine the earlier publications and the translations made by other translators and think over the choices and decisions made by them and he/she should never hesitate to contact with the author of the text, or a health professional when necessary. About this matter Alfaro(2005) suggests that amateur translators should ask for linguistic advice from translation professionals to avoid the classic pitfalls, on the other hand, professional translators with no medical training must build up an extensive network of contacts with health professionals in order to be able to ask questions and discuss meanings. Alfaro emphasizes that this advice is valid for all translators who do have medical training, because the field of medical knowledge is so vast that it is impossible for any one person to be familiar with the entire lexicon.

A troublesome subject in medical translation for the translator is the use of abbreviations, and acronyms. As mentioned in detail in 2.2.6. “Abbreviations and Symbols” and in 2.2.7. “Acronyms”, abbreviations and acronyms both are used very often in both oral and written medical communication. Names of diseases, diagnosis, drugs, chemical compounds, medical analysis, treatments mostly are in their shortened forms. Use of shortened forms save time and space. Especially in the case of emergency,

they are very useful, but common use of abbreviations and acronyms may cause ambiguity, since most of them are used to meet more than one situation. Kasprowicz explains the troublesome side of the use of abbreviations and acronyms as such:

> The disinclination to apply full terms results in most medical texts being lavishly strewn with shortened forms, often accompanied by no explanations whatsoever. In many situations they obscure the meaning, being the source of obscurity or ambiguity, for even within one specialty, several different terms may stand for one acronym (e.g. CF has over 20 medical meanings, MA over 25). In extreme cases, shortened forms may be illegible (e.g. handwritten prescriptions), or author-specific, being produced just for the sake of one particular text. To make matters worse, as specialized fields develop, the number of abbreviated forms coined annually is so great that a full dictionary update is doomed to failure, often leaving translators with no sources of reference at all (2010: Vol.14, No: 2).

According to a research conducted between November 10, 2008 and March 31, 2009, which was based on the observation of two different Internet medical discussion groups, the detailed statistics of the queries of these discussion groups were kept. The results were striking. The questions related to the terminological problems fell behind the questions related to the problems with acronyms and abbreviations and these problems with acronyms and abbreviations constituted a very high percentage of the total (Kasprowicz, 2010: Vol.14, No: 2). The results of the study proved that shortened forms are a great problem in medical translation. Kasprowicz quotes that the use of acronyms and abbreviations is a problem that shouldn't be underestimated. She adds that in 2005, in the USA, The Joint Commission founded to improve health care and to evaluate the work of health care organizations within the framework of legislations, approved a "Do not use" list of medical abbreviations, acronyms and symbols. According to Kasprowicz, this shows the dimensions of the problem clearly and the medical translators should pay extra attention to dangerous abbreviations, acronyms, symbols, and especially to dose designations when handling translations. (2010, Volume 14, No.2).

As explained in 2.1.1. “Medical texts as informative texts”, and in 2. 3. “The nature of medical texts”, one of the most significant characteristics of medical writing is its not having connotations. But here lies another problem of translation. Fischbach expresses this problem in the following manner:

> There is quite a difference between the denotation of a word, i.e. , its core or actual meaning, and its connotation or fringe area, which suggests or implies overtones in addition to its actual meaning. We must not lose sight of the fact that copy which denotes one thing in English can easily connote something else in the foreign language, particularly if translated literally. This unintentional connotation may prove to be ludicrous, offensive, or even obscene. Another difficulty is that even certain scientific words may look like perfectly safe cognates, yet result in a mistranslation if used as such. For example, peptic ulcer is not ulcere peptique but ulcere gastro-duodenal in French and conversely anthrax in French is not anthrax in English, but carbuncle. In German, the word Halsweh is another such false friend that can be-shall we say-a pain in the neck; yet to the German physician it connotes sore throat (1961: 464).

Another outstanding problem in medical translation is the misplacement of some adverbs. Although this problem is seen in every type of translation, it can cause unwanted and sometimes fatal situations in medicine. Fischbach (1961: 467) gives the following example on this matter:

In the sentence **“The first patient took this medication the next day.”**, let’s place the adverb “only” in different places and see the results:

Only the first patient took this medication the next day.
(None of the other patients took this medication the next day.)

The first patient **only** took this medication the next day.
(The first patient did not gargle, swab his throat, or take liquids, but just took this medication.)

The first patient took **only** this medication the next day.
(The first patient took only this no other medication.)

The first patient took this medication **only** the next day.
(He took the medication as late as the next day.)

The first patient took this medication the next day **only**.
(He did not take the medication yesterday, last week, a week later, or at any other time except the next day.)

So the translator should not give permission to float of the advebs ramblingly in the sentences, otherwise the result will be the lack of preciseness in meaning.

Medical ethics, on the other hand, must be one of the priorities of the medical translator. The patient's health, spirits, and in some situations the patient's life are in question, so the translator must keep the accuracy, the facts, confidence and validity of the information that he/she will translate. According to Montalt and Davies, medical translators must respect the privacy of patient histories, informed consents, drug development documentation, and medical patents among other genres. They point out that in an informed consent, clarity is important so that the patient can make a conscious choice; in an original article, accuracy is important so that the experiments can be repeated and that the argumentation can be followed in detail; in a patient information leaflet, clarity is important so that the patient can take the drug safely and effectively; in questionnaires, cultural relevance is important so that the questions can be meaningful and understandable in the target culture (2007:23).

Till here, the necessity of recognizing the problems in medical translation and the issue of how to overcome these problems were discussed. It is obvious that the one who will solve translation problems is the translator. Hence, a medical translator must have some professional characteristics in order to be

able to cope with the problems that he/she will encounter during the translation process.

Lee-Jahnke looks for the answer to the question of " Who is likely to become a competent medical translator?" . While trying to describe a competent medical translator, she divides the medical translators into two: Those with a medical background like medical students and physicians, and good translators genuinely interested in medicine. According to Lee-Jahnke, both types of translators have advantages and drawbacks. While the first group understands the subject matter, but lacks the translation techniques, those in the second category must acquire specialized knowledge and therefore need more feedback from the medical community. She also points out that there are divergences among translation scholars on this matter. While some defends that medical texts must be translated only by medical doctors, the others defend that the best medical translations can be produced only by a translator and Lee-Jahnke supports the second view (2005: Vol.6, No: 20: 81-83).

Here, we will dwell on the real translators, not on the translators who are also M.Ds. There are some prerequisites that a medical translator must have. A medical translator, first of all, must have sufficient background knowledge of medicine. Since medicine is a specialized field of translation and directly deals with the life of human beings, the medical translator has a different and heavier responsibility when compared with the translators of other fields of translation.

As mentioned before, the medical translator has to cope with the terms of anatomy, diseases, drugs, syndromes, indications, side effects, and medical equipments and devices which are specific to the field of medicine. So, the translator has to be familiar with this specific terminology and he/she must know both the source and the target languages and cultures very well.

The medical translators should also be aware of the translation theories especially the ones which can be applied to the medical translation. Within the context of this thesis, the Skopos theory has been the pillar to build the approach to the subject matter since, along with the above mentioned issues, the Skopos theory postulates a flexible attitude towards the translation of the same text depending on its skopos and the different target receivers. The medical translator should have enough knowledge and experince in order to be able to analyze the needs, intentions and the expectations of these different receivers correctly and accurately, so that he/she can find suitable translation methods and draw a perfect map of the translation process. Lee-Jahnke's suggestions for achieving proficiency in the field of medical translation are as follows:

a. An interest in this special field.
b. A mastery of special reading skills for medical texts to identify their difficulties.
c. Familiarity with the general difficulties in the realm of medicine and the ability to tackle them appropriately with LSP (Languages for Special Purposes)-based approaches.
d. A mastery of research and documentation (2005: Vol.6, No: 20: 81-83).

All above listed criteria proves that a medical translator has to try to develop the medical content knowledge to a large extent so that he/she can follow the developments and ever changing diagnosis methods and treatments in the field of medicine. Since medicine is a dynamic and ever developing field, a good medical translator has to refresh his/her knowledge, too.

According to Gonzalez (2007,ATA 48th Annual Conference Proceedings), in order to express a faithful rendition of the source language in the target language, the translator must first comprehend the source message, then express it in the target language. Comprehension is the key factor for effective translation. Hence, the medical translators must be avid

readers in both languages in order to expand their linguistic abilities and subject matter expertise.

While a literary translator tries to convey the rhythm, the characters, the scene, the feelings, and the point of view of the author or the poet, a medical translator focuses on the facts. So, a medical translator must have a good medical knowledge for providing accuracy in the target language. It is clear that in order to be able to recognize the medical terminology, Greek and Latin roots, prefixes and suffixes, and to distinguish the false friends, to choose the suitable translation methods and to make the right decisions during the translation process, a medical translator must have the necessary comparative background knowledge of both the source and the target languages and the medical discernment.

Here, in this thesis, translations of three different types of medical texts have been studied. Among these, academically and professionally written ones have similar linguistic and stylistic characteristics and similar target receivers, while the popularly written one differs from the formers with its linguistic and stylistic features and its target receivers. Hence, it is not possible to use the same methods in the translation of these different texts. The translator's choices are also different while translating them. The translations of these three types of medical texts will be compared on lexical and textual levels by means of focusing on the target receivers of each. As mentioned before, in medical translation, different texts require different translation methods depending on the skopos and the target receiver. This creates different problems for the translator as examined before.

In this thesis, two academically written texts have been dealt with. The first of the texts is an academically written medical article, and the second is an academically written formal medical report. The target readers of both texts are medical professionals. In line with the Skopos theory, these two texts were translated according to these target readers, so all the stylistic and semantic characteristics of the source texts were maintained. These two

texts contain a hard medical terminology full of Greek and Latin terms which are the basic characteristics of medical language. The target readers of both texts will have no difficulty with the terminology since they have a good grasp of medicine and the medical terminology. For this reason, in the translation of these texts, direct translation methods were used predominantly. Another reason for the choice of direct translation is the universal quality of medical language. Science, itself is universal, too. Medicine, as in all other scientific fields witnesses to the emergence of new discoveries, new treatments, new technologies, new diagnosis, and new inventions everyday. This means that everyday numerous new terms and concepts participate in medical literature and communication. For this reason, in order not to fall behind the dynamism, innovation and the development in the field of medicine, using a universal medical language is essential and the way of creating this universal language is borrowing and calque. By this way, a Turkish doctor can understand the terminology used by a doctor from another country and vice versa.

In academically written medical texts, the authors write according to an internationally and scientifically accepted format, and in the translation of such texts this format is maintained through direct translation. Direct translation makes easy conveying information and facts which is the fundemental aim of the academically written texts.

It is no doubt that this does not mean to exclude the oblique translation methods. For example; using modulation that is, passive for active, cause for effect, means for result, a part for the whole, one part for another, positive for double negative, and double negative for positive is also common in academically written medical texts as in our sample text translations. When some changes in the grammatical structures are needed, the translator will apply to the transposition method. But as it is seen in the translation of the sample academically written medical texts, the use of direct translation methods is more predominant when compared with the use of oblique translation methods.

It will not be wrong to say that the comparison made above related to the translation methods used in the translation of academically written texts is completely valid for the professionally written medical texts since they have similar characteristics with each other. While explaining professionally written medical texts in 4.1.2. Newmark's and Vihla's medical text types were taken up. While Newmark propounds three types of medical texts –academically written, professionally written and popularly written medical texts-depending on the reader profile, Vihla propounds two types of medical texts-professionally written and popularly written medical texts. She accepts the academically and professionally written texts as the same. When the reader profile and the basic characteristics of the academically and professionally written texts are taken into consideration, except some nuances, it is possible to say that they have many common features. In the translated sample professionally written text "sinusitis", direct translation methods; that is borrowing, calque and literal translation have been mainly used just as in the translation of academically written samples.

The popularly written sample text published in the Guardian as a "health column" written by Dr. Luisa Dillner has been translated by the author of this thesis. The popularly written texts published in the health columns of the newspapers, and in the magazines are usually translated by anonymous translators since they do not have a scientific and formal feature. These texts are written for the layman (Newmark, 1988: 153) who has little or no medical background knowledge with layman vocabulary, which may include familiar alternative terms. In these texts, in order to be able to meet the target reader's needs, expectations and intentions, the translator, first of all should choose a suitable way for translating the hard terminology. If the translator uses the same methods as in the academically or professionally written texts, the skopos of the translation will not be achieved.

In the translation of the sample popularly written text on osteoporosis, oblique translation methods have been used predominantly. Equivalence, transposition and adaptation have often been applied whereas two

borrowings and only one calque have been used. Where necessary the medical explanations for the purpose of informing the target reader have been given by the translator.

When the use of borrowing and calque in these four sample texts are compared, the findings will support the correlation between the text types and the translation methods. In the first academically written text 11 terms, in the second academically written one 21 terms have been translated through borrowing. In the professionally written text there are 28 terms translated through borrowing, whereas in the popularly written medical text there are only 4 borrowed terms. In the first academically written medical text there are 4 terms translated through calque. In the second academically written one 10 terms, in the professionally written one 6 terms have been translated through calque. On the other hand, in the popularly written medical text there is only 1 term translated through calque.

Consequently, this thesis puts forward that medical translation is more than giving the equivalents of the medical terminology of the source text in the target text. In medical translation, in line with the Skopos theory, the target readers, their levels of background medical knowledge, their intentions, needs and expectations are of primary importance. The translator, as the expert and the unique responsible person of the translation process should determine the suitable translation methods by taking into consideration the target reader and his/her needs. In medical translation, the use of direct translation methods has been suggested for the academically and professionally written medical texts. On the other hand, in popularly written medical texts, the use of oblique translation methods has been assessed as more to the purpose. But this does not mean to exclude the oblique translation methods in the translation of the academically and professionally written medical texts or to exclude the direct translation methods in the translation of the popularly written medical texts. The translated sample texts in the thesis and the figures given above related to the use of borrowing and calque in these three types of sample medical texts

have shown that only the proportion of the use of the methods changes according to the text type.

Hence, this study aims at providing a sample approach to medical translation for translators and intended translators alike, by means of a theoretical based evaluative study. It is hoped that this study will pave the way for future researches in the field of medical translation for those who are academically and professionally involved in this activity.

BIBLIOGRAPHY

Arda, Berna. “Anatolia: The Cradle of Modern Medicine” *Ankara Üniversitesi Tıp Fakültesi Mecmuası.* (e-journal) Vol. 62, No: 1 October 2009. http://www.onlinedergi.com/autfm/arsiv/arsivDetay.aspx?yil=2009&peryot=1 Web. October 31, 2010.

Akakuru, Iheanacho. “The Translator and his Client: Factoring external determinations into the translational activity” *Translation Journal*. (e-journal) Vol. 14, No: 2 April 2010. http://translationjournal.net/journal/52client.htm Web. December 20, 2010

Alfaro, Diego. (2005) “ Difficulties in Translating Medical Texts” . Ccaps Translation and Localization. http://www.gala-global.org/en/resources/CcapsAlfaro_EN.pdf Web. April 23, 2011.

Arroyo, Cristina Márquez. “Interview with Henry Fischbach” *Panace.* Vol. 8, No: 25 Primer Semestre 2007 http://medtrad.org/panacea/IndiceGeneral/n25_semblanzas-marquez.pdf Web. November 02, 2010.

Ask.com http://www.ask.com/web?q=Examples+of+Weight+Bearing+Exercises

Web. April 10, 2011.

Aveling, H. (2002). *"Mistakes" in Translation A Functionalist Approach* (A Paper Prepared for the Third Workshop on “The Art of Translation”). London, UK: University of London, AHRB Centre for Asian and African Literatures, School of Oriental and African Studies.

http://www.soas.ac.uk/Literatures/satranslations/Aveling.pdf

Web. March 10, 2011.

Baorong, Wang. “Translating Publicity Texts in the Light of the Skopos Theory: Problems and Suggestions” *Translation Journal*. (e-journal) Vol. 13, No: 1 January 2009. http://translationjournal.net/journal//47skopos.htm Web. February15, 2011.

Bayat, Ali Haydar. Muslim Heritage.com “Turkish Medical History of The Seljuk Era”. December 2006. http://www.muslimheritage.com/topics/default.cfm?ArticleID=1096 Web. October 31, 2010.

Bayat, Ali Haydar. *Tıp Tarihi*. İzmir: Sade Yayınları, 2003.

Bokor, Gabe. “In Memoriam: Henry Fischbach 1921-2008” *Translation Journal*. (e-journal) Vol. 12, No: 4 October 2008. http://translationjournal.net/journal//46fischbach.htm Web. October 15, 2010.

Byrne, Jody. *Technical Translation Usability Strategies for Translating Technical Documentation.* Dordrecht: Springer, 2006.

Derish, Pamela and Susan Eastwood. “A Clarity Clinic for Surgical Writing “ *Journal of Surgical Research* (e-journal). Vol. 147, Issue 1 June 2008.

http://www.sciencedirect.com/science?_ob=ArticleURL&_udi=B6WM6-4P8R7RP- Web. November 15, 2010.

"Dictionary.com" *Free Online Dictionary for English Definitions*. http://dictionary.reference.com/

Ellington, Barbara Reeves. " The Pragmatics of Medical Translation: A Strategy for Cooperative Advantage".Ed. Henry Fischbach. *Translation and Medicine*. Amsterdam, Philadelphia: J. Benjamins. Vol. 10, 1998. (105-115).

Erten, Asalet. "Approaches to technical Translation" *Çeviribilim ve Uygulamaları, Hacettepe Üniversitesi Edebiyat Fakültesi Mütercim Tercümanlık Bölümü Yayını, Hacettepe Üniversitesi- Mütercim Tercümanlık Bölümünün Kuruluşunun 15.Yıl Özel Sayısı.* Aralık 1997.

Erten, Asalet. *Tıp Terminolojisi ve Tıp Metinleri Çevirisi*. Ankara: Seçkin Yayıncılık, 2003.

Finch, C.A. *An Approach To Technical Translation.* Oxford, New York: Pergamon, 1969.

Fischbach, Henry. "Some Anatomical and Physiological Aspects of Medical Translation: Lexical equivalence, ubiquitous references and universality of subject minimize misunderstanding and maximize transfer of meaning" *Meta: Translators' Journal.* (e-journal) Vol. 31, No: 1 March 1986 http://www.erudit.org/revue/meta/1986/v31/n1/002743ar.pdf Web. November 17, 2010.

Fischbach, Henry. Problems of Medical Translation. Presented at *the Joint Meeting of the Philadelphia and New York Regional Groups*, Philadelphia, Pennsylvania, November 18, 1961. National Network of Libraries of Medicine. Bull Med Libr Assoc. 1962 July; 50(3): 462–472. http://www.ncbi.nlm.nih.gov/pmc/articles/PMC197861/pdf/mlab00192-0163.pdf Web. May 01, 2011.

Gentzler, Edwin. *Contemporary Translation Theories*. Clevedon: Cromwell Pres Ltd, 2001.

Gonzalez, Orlando. (2007). Essentials for Medical Interpreters and Translators. *ATA 48th Annual Conference Proceedings, USA.*

http://www.imiaweb.org/uploads/pages/104.pdf Web. May 05, 2011.

Günergun, Feza. (2003, November). Medical History in Turkey: A Review of Past Studies and Recent Researches. *Taiwan Symposium on the History of Medicine in Asia: Past Achievements, Current Research and Future Directions* (e-article). Taipei: Academia Sinica. http://www.ihp.sinica.edu.tw/~medicine/ashm/lectures/Feza-ft.pdf Web. November 20, 2010.

Gyls, B.A. and M.E. Wedding. *Medical Terminology: A Systems Approach.* Philadelphia: F.A. Davies, 1983.

Herget, Katrin and T. Alegre," Translation of Medical Terms" *Translation Journal*. (e-journal) Vol. 13, No: 3 July 2009. http://translationjournal.net/journal//49medical1.htm

Web. December 21, 2010.

Hoorickx-Raucq, Isabelle. "Mediating the Scientific Text. A Cultural Approach to the Discourse of Science in some English and French Publications and TV Documentaries" *The Journal of Specialised Translation.* Issue: 03 January 2005. http://www.jostrans.org/issue03/art_hoorickx_raucq.php Web. December 20, 2010.

Hönig, Hans G. "Positions, Power and Practice: Functionalist Approaches and Translation Quality Assessment" . *Current Issues In Language and Society.* Vol.4, No. 1, (1997). (6-34).

İngilizce Deyimler (online).

http://www.ingilizcenet.com/idioms/ingilizce_deyimler.html

İngilizce Türkçe Atasözleri (online).
http://www.ingilizceturkce.com/ingilizce-atasozleri.php

Izquierdo, Isabel Garcia. "Neutral Spanish, Spanglish and Medical Translation" *Translation Journal*. (e-journal) Vol. 10, No: 3 July 2006.

http://translationjournal.net/journal//37neutro.htm Web. 10 December. 2010.

Johansson, Rolf. (2003). *How To Write A Scientific Text*. Lecture Notes. Retrieved January o3, 2011, from Stockholm Royal Institute of Technology, Department of Infrastructure Urban Studies / Built Environment Analysis Web Site: http://www.infra.kth.se/courses/1U1030/LectureNotes_A.pdf

Jenkins, Frank. (2011). Scientific Attitudes. Retrieved February 01, 2011 from University of Alberta, Centre For Research In Youth Science Teaching and Learning.

www.uofaweb.ualberta.ca/crystaloutreach//pdfs/ScientificAttitude

Web. January 11, 2011.

Kasprowicz, Małgorzata, "Handling Abbreviations and Acronyms in Medical Translation" *Translation Journal.* (e-journal) Vol. 14, No: 2 April 2010. http://translationjournal.net/journal/52abbreviations.htm Web. November 2, 2010.

Kaur, Kulwindr. "A Competent Translator And Effective Knowledge Transfer" *Translation Journal.* (e-journal) Vol. 9, No: 4 October 2005. http://translationjournal.net/journal/34edu.htm Web. April 25, 2011.

Lee-Jahnke, Hannelore. "Teaching Medical Translation: an easy job?" *Panace*. Vol. 6, No: 20 June 2005. http://medtrad.org/panacea/IndiceGeneral/n20_editorial.pdf Web. September 11, 2010.

Liu Lili and Tian-jun Liu.” Exploration on Medical Qigong Terms in Perspective of Antonymy”. *Journal of Chinese Integrative Medicine.* Vol. 7, No: 3, March, 2009.
http://www.jcimjournal.com/en/fulltext2.aspx?articleID=jcim20090318

Web. October 20, 2010.

Medical Abbreviations And Symbols Online

NC DSS Adult and Family Services Section, November 1, 1998)
http://info.dhhs.state.nc.us/olm/manuals/doa/achcm/man/ACHCMxM.pdf

Web. October 13, 2010.

Medical Abbreviations Online
http://www.medicabbreviations.com/cat/common-medical-abbreviations.html
Web. October 13, 2010.

Medi Lexicon Free Online Medical Dictionary
http://www.medilexicon.com/medicaldictionary.php?l=t

Molina, Lucia and Amparo Hurtado Albir. ”Translation Techniques Revisited: A Dynamic and Functionalist Approach”. *META Translators' Journal*, Vol.47, No: 4, 2002. Web. February 25, 2011.
http://www.erudit.org/revue/meta/2002/v47/n4/008033ar.html

Montalt, Vicent and Maria Gonzales Davies. *Medical Translation Step by Step Learning by Drafting.* Manchester: ST Jerome, 2007.

Newmark, Peter. *A Textbook of Translation*. New York and London: Prentice-Hall, 1988.

Ning, Zhao “Skopos in Practice:Building an Appealing Brand Image in the Translation of Soft News” *Translation Journal* Vol. 12, No: 4, October 2008.

http://translationjournal.net/journal//46skopos.htm Web. December 05, 2010.

Nord, Christiane. *Translating as a Purposeful Activity: Functionalist Approaches Explained.* Manchester: St.Jerome, 1997.

Nord, Christiane(1988) Textanalyse und Übersertzung, Heidelberg: Groos (English translation by Penelope Sparrow and Christiane Nord(1991) *Text Analysis in Translation.*). Amsterdam: Rodopi.

Reiss, Katharina. “Type, Kind and Individuality of Text: Decision Making in Translation” . *The Translation Studies Reader* Ed. Lawrence Venuti, second ed. Routledge, 2000. (168-179).

Sarı, Nil. Muslim Heritage.com “Educating The Ottoman Physician” . August 2005 http://www.muslimheritage.com/topics/default.cfm?ArticleID=538

Web. August 10, 2010.

Segura, Jack “The Spanish Language in Medicine” *Translation Journal.* Vol. 3, No: 3 July 1999
http://translationjournal.net/journal/09medic1.htm Web. August 05, 2010.

Schäffner, Christina. (1998). "Skopos theory." *Routledge Encyclopedia of Translation Studies*. In M. Baker (ed.). London and New York: Routledge, (235-238).

Shea, David. “Interview with Peter Newmark” *Panace*. Vol. 6, No: 21-22. September-December 2005. http://medtrad.org/panacea/IndiceGeneral/n_21-22_semblanzas_Shea.pdf

Web. November 14, 2010.

Shiyab, Said M. “Synonmy in Translation” *Translation Journal.*(e-journal) Vol. 11, No: 4 October 2007. http://translationjournal.net/journal//42synonymy.htm

Web. October 08, 2010.

Shuttleworth, M & Moira Cowie. *Dictionary of Translation Studies*. Manchester: St.Jerome, 1997.

Sifil, Aykut., Çavdar, C., Çelik, A., Yeniçerioğlu, Y., Ersoy, R., Özaksoy, D., Çamsan, T. (2001). Vücut Kompozisyonu Değişikliklerini Saptamada Dual-Enerji X-Ray Absorbsiyometri ve Biyoelektrik İmpedans; Bir Hemodiyaliz Seansının Etkisini Saptama İki Yöntemin Karşılaştırmalı Analizi. *Türk Nefroloji Diyaliz ve Transplantasyon Dergisi*. Vol. 10, No: 4, 244-248.

Snell-Hornby, M. “Linguistic Transcoding or Cultural Transfer? A Critique of Translation Theory in Germany” *Translation, History and Culture.* Ed. S. Bassnett & A. Lefevere. London: Pinter, 1990. (79-86).

The Merck Manual Türkçe (17. ed.). (2002). İstanbul: Nobel.

The Merck Manuals Online Medical Lİbrary
http://www.merckmanuals.com/professional/sec08/ch091/ch091g.html

Tıp Terimleri Sözlüğü. (online) http://tip.terimleri.com/

Tuğlacı, Pars. *Tıp Sözlüğü İngilizce- Türkçe*. İstanbul: Okan Yayıncılık, 1987.

"Tureng" *Turkish English Online Dictionary*.

http://tureng.com/search/in%20respect%20to

Türk Dil Kurumu Sözlüğü (online)

http://www.tdk.gov.tr/TR/Genel/BelgeGoster.aspx

Ulman, Yeşim Işıl. " Türkiye'de 19-20 Yüzyılda Tıp Tarihinin Anahatları (1827-1923)". *Hastane Dergisi*. Vol.48, Kasım 2006. http://www.hastanedergisi.com/48/haberdetay.asp?id=8 Web. September 15, 2010.

Ünver, Süheyl. *Uygurlarda Tababet VII-XIV üncü Asır*. İstanbul: İstanbul Üniversitesi Tıp Enstitüsü Yayını, 1936.

Van Hoof, H. “Histoire de la traduction médicale en Occident “ *Cahiers de l’Institut linguistique de Louvain.* (e-journal) Vol. 19, No: 1-2 1993.

Vermeer, H. “Skopos and Commission in Translational Action” *Readings in translation theory.* Ed. A. Chesterman. Helsinki: Oy Finn Lectura Ab, 1989.

Vermeer, Hans J. "Skopos and Commission In Translational Action" *The Translation Studies Reader.* A. Chesterman (trans.). In L. Venuti (ed.). London: Routledge, 2000. (221-233).

Who named it? Search For Names And Eponyms
http://65.110.71.218/doctor.cfm/2421.html Web. October 12, 2010.

Vihla, Minna. “Medicor: A corpus of contemporary American medical texts” *ICAME Journal*. Vol. 22, April 1998.
http://www.hd.uib.no/icame/ij22/vihla.pdf Web. March 02, 2011.

Wikipedia, The Free Encyclopedia.

http://en.wikipedia.org/wiki/List_of_medical_roots,_suffixes_and_prefixes

Web. September 23, 2010.

Vinay, Jean-Paul and Jean Darbelnet. “A Methodology For Translation” . *The Translation Studies Reader* Ed. Lawrence Venuti, second ed. Routledge, 2000. (128-137).

Vinay, J.P. and J. Darbelnet (1995) *Comparative Stylistics of French and English: a Methodology for Translation*, translated by J. C. Sager and M. J. Hamel, Amsterdam / Philadelphia: John Benjamins.

Wulff, Henrik R. “The language of medicine” *Journal of The Royal Society of Medicine.* Vol. 97, No: 4 April 2004 http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1079361 Web. November 18, 2010.

Yoska, Erhan. (2005). *Türkiye Selçuklularında XIII. Yüzyıldaki Tıbbi Gelişmeler*. Yayımlanmış Yüksek Lisans Tezi, Erciyes Üniversitesi Sosyal Bilimler Enstitüsü, Kayseri. (No: 186470).

Zweigenbaum, Pierre and Natalia Grabar. “Automatic Acquisition of Morphological Knowledge For Medical Language Processing”. Ed. Horn Werner, Shahar Yuvar, Lindberg Greger, Andreassen Sten and Wyatt Jeremy., Springer-Verlag, 1999. (416-420). http://citeseerx.ist.psu.edu/viewdoc/

Sample Text 1

Turkish Journal of Thoracic and Cardiovascular Surgery. Vol. 3, No: 3, July 1995, Pages: 208-210.

http://tgkdc.dergisi.org/text.php3?id=331

Sample Text 2

Journal of the American College of Cardiology. Vol. 57, Issue 13, 29 March 2011, Pages 1445-1454.

http://www.sciencedirect.com/science?_ob=ArticleURL&_udi

Sample Text 3

http://www.ubmed.com/merckmanual/ub/view/Merck-Manual-Pro/503499/0/inflammation_of

Sample Text 4 *The Guardian*. Tuesday 29 March 2011

http://www.guardian.co.uk/lifeandstyle/2011/mar/29/preventing-osteoporosis-bones-calcium-woman

ABSTRACT

[Akyol, F. Deniz] [A Comparative Analysis of The Methods Used in Medical Translation in The Light of Skopos Theory] [M.A. Thesis] [Ankara, 2011]

The history of medicine and the medical translation is as old as the history of the mankind. Medicine has already had a special and different place among other scientific fields, because it is directly related to the human beings, to their body and soul. Finding a remedy for the suffering people, trying to prolong one's life have always been an issue of concern for the ages. For this reason, among other translation branches, medical translation has been of great and special importance.

In our ever globalizing world, with the discovery of the new diseases, new methods of diagnosis and treatment, and the easy accessibility of these through internet, medical translation has taken on a new dimension.

This thesis aims at introducing the methods used in medical translation and making a comparison of them with respect to different medical text types. In this comparative analysis, the Skopos theory which brought a new point of view to the functionalist approaches in translation, and especially to the scientific and technical translation as taking the target reader, his needs, intentions and the expectations into the centre of the translation activity has been the starting point since medical text types are categorized according to the profile of the target readers. In the thesis, the use of direct and oblique translation methods and of their subtitles like borrowing, calque, literal translation, transposition, modulation, equivalence, and adaptation has been shown and these methods have been compared on the translations of sample academically, professionally and popularly written medical texts.

Key Words: Medical translation, medical text types, skopos, target reader, translation methods.

ÖZET

[Akyol, F. Deniz] [A Comparative Analysis of The Methods Used in Medical Translation in The Light of Skopos Theory] [Yüksek Lisans Tezi] [Ankara, 2011]

Tıp ve tıp çevirisi tarihi insanlık tarihi kadar eskidir. Diğer bilimsel alanlar arasında tıp, her zaman özel ve farklı bir yere sahip olmuştur, çünkü tıp insanoğluyla, onun bedeni ve ruhuyla doğrudan ilgilidir. Acı çeken insanlara deva bulma, onların hayatını uzatmaya çalışma, asırlar boyunca her zaman ilgi konusu olmuştur. Bu yüzden, diğer çeviri dalları arasında tıp çevirisi büyük ve özel bir öneme sahiptir.

Günden güne küreselleşen dünyamızda, yeni hastalıkların, yeni teşhis ve tedavi yöntemlerinin keşfedilmesi ve internet yoluyla bunlara erişimin kolaylaşmış olması tıp çevirisine yeni bir boyut kazandırmıştır.

Bu tez, tıp çevirisinde kullanılan yöntemleri tanıtmayı ve farklı tıbbi metin türleri açısından bu yöntemleri karşılaştırmayı amaçlamaktadır. Tıp metinleri hedef okur profiline göre sınıflandırıldıkları için, bu karşılaştırmalı analizde, çevirideki işlevsel yaklaşımlara ve özellikle de hedef okuyucuyu, onun ihtiyaçlarını, niyetlerini ve beklentilerini çeviri etkinliğinin merkezine alarak, bilimsel ve teknik çeviriye yeni bir bakış açısı getiren Skopos Kuramı hareket noktası olmuştur. Tezde, doğrudan ve dolaylı çeviri yöntemleri ile onların alt başlıkları olan ödünçleme, öyküntü, sözcüğü sözcüğüne çeviri, aktarım, modülasyon, eşdeğerlik ve adaptasyon gibi çeviri yöntemlerinin kullanımı gösterilmiş ve örnek akademik, profesyonel ve popüler metin çevirileri üzerinde bu yöntemlerin karşılaştırması yapılmıştır.

Anahtar Sözcükler: Tıp çevirisi, tıbbi metin türleri, skopos, hedef okur, çeviri yöntemleri.