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THE EFFECTS OF VISUAL DEFICIENCIES ON THE TASK OF TRANSLATION

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Abstract

Numerous definitions have been suggested for both concepts of blindness and visual deficiency. The concept of translation has also been defined by many scholars and researchers in different ways. This shows that both have received remarkable attention by researchers. This essay examines both of them and investigates how and to what extent the former will influence the latter.

Several eye diseases have been discovered by medical scientists and researchers in the recent years. Macular Degeneration, glaucoma, Diabetic Retinopathy, cataract, refractive errors, RP, ONA, and stroke are the most famous names in this field. They each have different causes, symptoms, and consequences. Totally, eye problems lead to such visual deficiencies as blurred vision, tunnel vision, central or peripheral vision loss, halos around light sources, blind spots, problems with glare from bright lights, reduced colour vision, double vision, nearsightedness and farsightedness, night blindness, loss of acuity, eye movement disorders, and visual processing problems. They make various influences on the phenomenon of translation.

In this paper, a general overview of concepts of blindness and visual deficiency is mentioned. The same is done for the concept of translation. Next, the most notable visual diseases and their corresponding symptoms and consequences are pointed out. Finally, the researcher investigates the ways each of these deficiencies influences the task of translation and compares them against each other to determine which one is more troublesome and which one less. A further comparison is also made between lack of appropriate vision and complete blindness and their corresponding effects on translation process and its product.

Key Words: blindness, visual deficiency, translation, influence

INTRODUCTION

Human body is a framework composed of several organs, each consisting of millions of cells. They are split into two categories not mutually exclusive, named external and internal parts. The external parts are defined as the organs which can be observed by someone else with no necessity to use any instrument. Eyes, ears, nose, mouth, neck, hands, legs, etc., are instances of external body organs. Internal organs, on the opposite side, are such organs as brain, heart, kidneys, skull, spinal cord, etc., observation of which necessitates specific medical equipments. This dichotomy can be extended to sub-parts of each organ. In fact, human body is a complex structure made of numerous organs and sub-organs between which there exist a large number of complicated relations.

Human uses his eyes to observe the environment around. He receives the auditory signals through his ears, smells flowers, perfumes, food, etc., with his olfactory device called the nose, uses mouth, tongue, and teeth in order to eat and drink, etc. Hands are utilized to perform manual affairs and legs to navigate. Internal organs and their corresponding tasks and activities should also be taken into account. The receiving food is converted into digestible materials, transferred to all parts of the body and the extra materials are sent out. These tasks are all performed by different internal organs. Above all, it is the brain which controls all such activities. Thus, it can be seen that human uses all parts of his body in order to perform different tasks required to continue his living. Any kind of deficiency in each organ may influence and damage the process of completing the task assigned to be dependent on that organ and its correct functioning. As a result, human's health (correct functioning of each part of body) and his success in performing various tasks and satisfying his desires are in a direct relation to each other.

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There's no doubt that vision is one of the basic and most important properties of any individual. Human's primary tool in order to perceive the world and its diverse aspects is his pair of eyes. It's a significant duty upon everybody to make maximum amount of efforts to preserve such a precious treasure and to keep them healthy and functionable. To fail to perform this task would lead to visual deficiency and even blindness which bear harsh consequences.

The term 'blindness' has many connotations and is difficult to define precisely. To many people, blindness means the complete loss of vision with no remaining perception of light. Far more people have permanent loss of some, but not all, of their eyesight. The severity of vision loss can vary and may result in equally varying degrees of functional impairment (Shuemaker, 2008). Blindness is a catch-all term for a variety of significant problems with vision. Vision itself is a catch-all term for the activities our visual system performs, including the abilities to perceive detail (acuity), color, and contrast, and the ability to recognize objects. There are many things that can go wrong with parts of this system, each causing low vision or blindness in different ways. Many people classified as blind still have some Residual Vision, but usually not sufficient to identify objects without support. Some may have lost central vision, but still have peripheral vision. Others may see light and dark or have difficulty with contrast or focusing. Still others may have no vision at all.

There is a definition for 'legal blindness' but it is not very useful to describe what a person can or cannot do. The legal definition is having central visual loss (ability to see detail) less than 20/200 even with the best correction (glasses or something similar) or losing so much peripheral vision that the person can only see in the central 20% of the visual field. This definition is rather vague and is not the only 'official' definition of blindness. Different agencies and states use their own definitions.

Visual impairment encompasses both low vision and blindness (Global Initiative for the Elimination of Avoidable Blindness, [GIEAB) 2006-2011). The definition for low vision is similarly vague about functional ability; visual acuity of less than 20/70 with the best correction and which interferes with activities of daily living. Those classified as partially sighted have visional acuities ranging from 20/70 to 20/200, with 20/20 being perfect vision. Carcieri, Morris, and Perry (2009) classified legal blindness as a visional acuity of 20/200 to no sight at all.

Blind and visually impaired people are distributed all around the world. It is therefore crucial for them to be able to earn their livings as independently as possible. According to Carcieri et al. (2009), mobility and independence are significant issues for blind and visually impaired people. While blind people live productive lives, as well as receive full education, there are still some areas where greater independence could be achieved. Kirchner and Peterson (as cited in Enerstvedt, 1996) stated that blind and low vision individuals are successfully employed at every occupational level, for example, scientists, engineers, secretaries, teachers, managers of businesses, laborers, and household workers. A profession which sounds to be compatible with such individuals' capacities and may therefore be considered as an appropriate job for them is the profession called 'translation'.

"Translation is a phenomenon that has a huge effect on everyday life" (Hatim & Munday, 2004, p.3). The researcher defines translation as the task of substituting a text (oral or written) from one language into a different language. However, this is not the only definition of translation. Munday (2008) pointed out that the term translation has several meanings: it may refer to the general subject field, the product (the text that has been translated) or the process (known as translating). The process of translation between two different written languages involves the translator changing an original written text in the original verbal language into a written text in a different verbal language.

If we look at a general dictionary, we find the following definition of the term translation:

Translation n. 1 the act or an instance of translating. 2 a written or spoken expression of the meaning of a word, speech, book, etc. in another language. (The Concise Oxford English Dictionary)

The first of these two senses relates to translation as a process, the second to the product. This immediately means that the term translation encompasses very distinct perspectives. The first sense focuses on the role of the translator in taking the original or source text (ST) and turning it into a text in another language (the target text, TT). The second sense centers on the concrete translation product produced by the translator. This distinction is drawn out by the definition in the specialist Dictionary of Translation Studies (Shuttleworth & Cowi 1997, 181):

Translation An incredibly broad notion that can be understood in many different ways. For example, one may talk of translation as a process or a product, and identify such sub-types as literary translation, technical translation, subtitling and machine translation; moreover, while more typically it just refers to the transfer of written texts, the term sometimes also includes interpreting. (Hatim & Munday, 2004, p.3)

It has already been pointed out that different professions necessitate different parts of human body to function appropriately. Such a principle does also exist for the profession of translation. Different translation-related tasks require different body organs to be healthy. Written translation needs appropriate level of vision and healthy hands able to write. Oral translation involves the auditory sense and the translator's ability to speak. Anyway, it is obvious that vision is a primary necessity in most types of translation. The relationship between translation and translator's level of vision, different kinds of visual deficiencies, and how and to what extent they influence translation process and its product are the main points covered in this paper.

Statement of the Problem

This essay is going to examine the relationship between translator's level of vision and different aspects of the phenomenon of translation. The major problem being investigated here is various effects that the visual level of a translator may have on him to perform the task of translation and on his translation quality. The researcher also takes a look at the problems and difficulties caused by individual's visual restrictions and their corresponding effects upon translation process and product.

Significance of the Study

This essay investigates a very new and unique topic. The issue of translation by a blind person is by itself very new, and reducing it to a more specific dimension (the effect of vision and visual deficiencies on translation) will make it more noteworthy. It is difficult if not impossible to find a book or essay discussing this subject. Thus, it is not injustice to claim that the researcher is the first person to select this topic to study.

There are many companies and institutes around the world which attempt to design accessibility tools and assistive technologies for blind and visually impaired individuals. The researcher suggests such companies and institutes to study this paper as it will be excessively helpful to them. By reading this paper, they will identify various areas in which visual impairments will cause blind and visually impaired individuals to get into trouble, specially troubles concerning the task of translation. This knowledge will help them provide more complete accessibility options and assistive technologies for blind and visually impaired individuals (translators).

The phenomenon of translation encompasses a large domain of areas, each with numerous sub-topics and branches of knowledge. They are all worthy of research and study. In their noteworthy book, Jenny Williams and Andrew Chesterman (2002) suggested 12 areas: text analysis and translation; translation quality assessment; genre translation; multimedia translation; translation and technology; translation history; translation ethics; terminology and glossaries; interpreting; the translation process workplace studies; translator training; and the translation profession. Here, the researcher adds another area of study named 'the relationship between translation and translator's health (including vision).' Introduction of this topic to the world of 'Translation Studies' can motivate many scholars to discuss it. Such an opportunity may lead to publication of many books, essays, workshops, lectures, etc., related to the subject of translation and vision.

Research Questions

Q1.What are the major diseases and deficiencies of vision?
Q2.How do visual deficiencies influence translation process and product?

Research Hypotheses

H1.Macular Degeneration, Glaucoma, Diabetic Retinopathy, Cataract, refractive errors, RP, and ONA are the most famous visual diseases. Although not being considered as a visual disease, stroke does also results in serious eyesight damages.

H2.Central and peripheral vision loss, reduced color vision, photophobia, halos around light sources, blind spots, night blindness, nearsightedness and farsightedness, blurred and tunnel vision, double vision, eye movement disorders, and visual processing problems are caused by various types of visual diseases. Farsightedness creates the least amount and even no trouble for a translator. The first six deficiencies make less serious difficulties for translators and are more or less solvable while the last four cases are the most troublesome ones and have high and problematic effects on the task of

translation.

Research Limitations

It has already been indicated that this subject is a relatively new topic never discussed before. This would increase the difficulty of finding other sources to add to those mentioned by the researcher himself. In fact, lack of other sources relevant to the research subject will increase the researcher's difficulties to prepare the part named 'references'.

In addition to vision, there are many other factors influential on translation. Age, gender, educational level, economical status, amount of experience, translation deadline, dictionaries and other data sources available to the translator, etc., are among such factors. Due to restrictions in space and time, this essay cannot examine all these factors and their influences upon translation and translators (blind and visually impaired translators in particular) in a comprehensive manner.

Health is not limited to eyes and visual capacity. All parts of body are vulnerable to various types of damages. Beside individuals suffering from visual problems, there are deaf individuals and people with auditory difficulties, individuals without hands or legs, crippled people, and so forth. Each of them encounter specific challenges in doing his affairs. Such conditions exist for the task of translation as well. Once again, time and space limitations do not allow the researcher to examine all these issues and their corresponding effects on translation.

Literature Review

Introduction

Some visually impaired people see the world as a blur; like a fuzzy picture in pale colors. They might have to guess what they are seeing. Other people have 'tunnel vision', like looking through two toilet rolls. Older people sometimes can see things in front of them but they can see things to the side. There are people who only see things on one side or the other. Many people with visual impairments cannot see colors well.

Christine, Frick, Kevin, and Spencer (2008) defined vision impairment as having 20/40 or worse vision in the better eye even with eyeglasses. People with the least degree of vision deficiency may still face challenges in everyday life. We must be aware of our personal risk of vision loss and take steps to preserve and protect our precious eyesight. Our communities must be informed so they may prepare the treatment and rehabilitation services required. Most important, our nation's leaders must comprehend the scope of eye problems in our country so that adequate government resources can be devoted to research, treatment and prevention. According to GIEAB (2006-2011), It is crucial that societies be made aware of known, well-tested, cost-effective interventions for preventing avoidable visual loss.

Studies consistently indicate that females in every region of the world and of all ages have a significantly higher risk to be visually impaired than males, mostly because of their longer life expectancy and, in poorer societies, because of their lack of access to services. Other risk factors are tobacco use, exposure to ultraviolet radiation, vitamin A deficiency, high body mass index and metabolic disorders.

According to GIEAB (2006-2011), blindness has profound human and socioeconomic consequences in every society. The economic effects of visual impairments can be divided into direct and indirect costs. The direct costs are those of the treatment of eye diseases, including the relevant proportions of costs for running medical and allied health services, pharmaceuticals, research and administration. The indirect costs involve lost earnings of visually impaired people and their caregivers and costs for visual aids, equipment, home modifications, rehabilitation, welfare payments, lost taxation revenue and the pain, suffering and premature death that can result from visual impairment. Poverty underlies not only the causes but also the perpetuation of ill health, including eye health, and thus the health status of a population and its socioeconomic conditions are correlated. Poverty additionally imposes barriers to access to health care.

Macular Degeneration (MD)

Macular Degeneration is a gradual loss of vision in the macula, the central part of the visual field. Usually, even in extreme cases, the person has peripheral vision and often they can 'work around' the missing parts of their central vision. There are two common types of Macular Degeneration: Early Onset Macular Degeneration and Age-related Macular Degeneration (AMD or ARMD) (there are a few other, less common forms of MD as well).

Early Onset MD is generally caused by one of several inherited conditions that make the retinal cells

in the macula to fail or begin to die. The degeneration is usually slow and can take decades to significantly reduce the person's central vision. Age-related macular degeneration (AMD) is a condition primarily affecting the part of the retina responsible for sharp central vision (Christine et al. 2008). Age-related Macular Degeneration (AMD) usually does not begin until after age 40 or 50. The exact cause of AMD is unknown, but risk factors for the disease include age and cigarette smoking. Long-term diets low in certain antioxidant nutrients may also increase the risk of AMD (Christine et al. 2008).

There are two forms or subtypes of AMD: 'wet' and 'dry'. Dry AMD involves the presence of drusen, fatty deposits under the light-sensing cells in the retina. Late cases of dry AMD may also involve atrophy of the supportive layer under the light-sensing cells in the retina that helps keep those cells healthy. Vision loDss in early dry AMD is usually moderate and only slowly progressive. Atrophy in late cases of dry AMD can lead to more significant vision loss. Wet AMD is less common, but more threatening to vision. It is called wet AMD because of the growth of tiny new blood vessels (neovascularization) under the retina that leak fluid or break open. This distorts vision and causes scar tissue to form. All cases of the wet form are considered late AMD (Christine et al. 2008).

Glaucoma

Glaucoma is an umbrella term for several diseases that all cause increasing pressure in the fluid in the eye. This pressure can pinch the blood supply to the optic nerve and cause its nerve cells to die. Usually the person begins to lose peripheral vision first, although they may not notice it. If treatment does not stop the disease, they will gradually progress to tunnel vision, blurred vision, halos around light sources, blind spots, and finally, blindness. Glaucoma is a disease that causes a gradual degeneration of cells that make up the optic nerve, which carries visual information from the eye to the brain. As the nerve cells die, vision is slowly lost, usually beginning in the periphery. Often, the loss of vision is unnoticeable until a significant amount of nerve damage has occurred. Therefore, as many as half of all people with glaucoma may be unaware of their disease (Christine et al. 2008). There are 5 major types of glaucoma: open angle or chronic glaucoma, low-tension or normal-tension glaucoma, closed angle or acute glaucoma, congenital glaucoma, and secondary glaucoma.

The exact cause of primary open-angle glaucoma, the most common form of the disease, is not obvious. Other forms of glaucoma (such as angle-closure, secondary and congenital glaucoma) occur in relation to specific physical causes. Increased fluid pressure within the eye (intraocular pressure) seems related in some way to all cases of glaucoma. The majority of cases of glaucoma exhibit intraocular pressure outside normal limits at some time. Factors increasing the risk of glaucoma are age, race, diabetes, eye trauma and long-term use of steroid medication (Christine et al. 2008).

Diabetic Retinopathy

For several reasons, high blood sugar levels make small blood vessels in the retina to leak and extra blood vessels to grow in the retina. As these newer vessels also start to leak, the leaking blood clouds the eye's fluid. Any abrupt jerks or increases in blood pressure can trigger more leaks. The leaks show up as red, gray, or black dots in the vision field and may take several weeks to slowly fade. The bleeding and the scarring it causes on the retina can make parts of the retina detach from the back of the eye. Another problem with Diabetic Retinopathy is Macular Edema (ME), or swelling of the macula at the center of vision. This swelling upsets the physical mechanisms for focusing images on the macula. The result is blurred vision that makes the person feel like they are looking through rumpled cellophane.

Diabetic Retinopathy is a common complication of diabetes. It affects the tiny blood vessels of the retina. Retinal blood vessels can break down, leak or become blocked, impairing vision over time. In some people with diabetic retinopathy, serious damage to the eye can occur when abnormal new blood vessels grow on the surface of the retina (Christine et al. 2008). Duration of diabetes is a major risk factor associated with the development of diabetic retinopathy. The longer someone has diabetes, the more likely he is to develop diabetic retinopathy (American Optometric Association, 2000). In general, the longer someone has diabetes, the greater the risk of developing diabetic retinopathy. Almost everyone with juvenile-onset diabetes will develop some signs of diabetic retinopathy.

Those acquiring diabetes later in life are also at risk of diabetic retinopathy, although they are somewhat less likely to develop advanced diabetic retinopathy. Diabetes also increases the risk of other vision diseases such as cataract and glaucoma (Christine et al. 2008). The best treatment for all of these symptoms is to control the person's diabetes and blood sugar levels, but even that may not prevent vision loss. Research suggests that the risk of diabetic

retinopathy can be reduced through careful control of blood sugar. People with diabetes are also encouraged to control their blood pressure (Christine et al. 2008).

Cataract

A cataract causes cloudiness in the clear lenses of the eye. When both eyes are affected, the condition is called cataracts. Deterioration and clumping up of the transparent proteins that make up the lenses cause the cloudiness, which usually involves the entire lenses. Researchers are not sure why this happens, but age, smoking, and long exposure to sunlight seem to be common factors. Symptoms of significant cataract are cloudy or blurry vision, halos around lights at night, problems with glare from sunlight or bright lights, poor night vision, reduced color vision, and double vision. Most cases of diagnosed cataracts are age-related. However, there are some other types of cataract including congenital cataract (developing in young children), cataract secondary to diseases like diabetes, cataract caused by steroid use, and cataract developing after an eye injury.

Refractive Error

Refractive errors are the most frequent eye problems in the United States. They are optical defects resulting in light not being properly focused on the eye's retina. Nearsightedness (myopia) and farsightedness (hyperopia) are the most common refractive errors. People with myopia see near objects clearly, while distant objects are blurred. People with hyperopia experience just the opposite: distant objects are clear while near objects are blurred (Christine et al. 2008). Why refractive errors develop is uncertain. Most infants have some degree of hyperopia, but vision becomes more normal with age, usually leveling off by age 6. However, some children remain farsighted or become so later in life. While some children may be nearsighted early in life, most myopia occurs during adolescence. Refractive error can continue to change over our lifetime. Other common refractive errors are astigmatism (uneven focus) and presbyopia (age-related problem with near focus). Uncorrected or under-corrected refractive errors can result in significant vision impairment. The magnitude of refractive errors are measured in units called diopters (Christine et al. 2008).

Retinitis Pigmentosa (RP) (Also Called Pigmentary Retinopathy)

Retinitis Pigmentosa is caused by several hereditary conditions. It is a progressive disease of the retina and is diagnosed by a distinctive pattern of pigment spots on the retina. For some reason, the vision receptors in the retina begin to die out. The first receptors affected are the 'rod' cells, which are better at working in low light than the 'cone' cells (which see colors). Because of this, night blindness is one of the first functional symptoms. Because the rod cells are concentrated on the outer part of the retina, 'tunnel vision' is usually the next functional symptom. However, RP eventually kills off both the rod and cone receptors, so most people with RP eventually become blind. The progressive loss of vision usually takes decades, but different types of RP progress at different speeds.

Optic Nerve Atrophy (ONA)

It is a technical term for damage to the optic nerve, caused by many different medical problems. In infants, causes include lack of oxygen in the body (hypoxia), trauma, tumors, and various hereditary conditions. In adults, causes include lack of blood to the nerve, shock, trauma, multiple sclerosis, tumors, and stroke. There are several symptoms of ONA, including overall dimming of vision, loss of acuity (ability to see fine detail), reduced color vision, and total blindness.

Stroke

A stroke happens when the blood supply to your brain is interrupted in some way. A blood vessel may become blocked or alternatively burst and bleed. The effects may be temporary or permanent and affect thinking, speech, movement and the senses, including vision. Visual problems following a stroke are common. These are often caused by damage to the visual pathway, which carries information from your eye to the back of your brain to be processed. This damage may be temporary or permanent: it is difficult to predict if you will recover from your visual problems. The area and extent of your stroke will determine the types of visual problems you have. The most common symptoms are loss of part of your visual field, blurred or double vision, and difficulty reading (retrieved from http://www.chss.org.uk). How you are affected depends on exactly where the stroke occurred in your brain. There are four main types of visual problems caused by stroke: central vision loss, visual field loss, eye movement disorders, and visual processing problems.

Central Vision Loss

Central vision loss is the partial or complete vision loss in one or both eyes. However, usually visual problems after a stroke happen because of damage to the brain and not the eye. Central vision loss due to a stroke in the brain usually affects both eyes. You may not be able to see anything at all, or you may only be able to see things around the edge of your vision, but not in the center (retrieved from http://www.stroke.org.uk).

Visual Field Loss

Your visual field is everything you can see from straight ahead to outwards to the side (periphery). Visual field loss after a stroke usually affects both eyes. It means that you are unable to see properly either to the left or to the right of the center of your field of vision. Where you experience difficulties is directly related to where the stroke occurred in your brain.

There are many types of visual field loss, but the most common is a condition where you can see only the right half or the left half of the world out of each eye. It is called homonymous hemianopia. This happens when a stroke occurs at the back of your brain. Other types of visual field loss include:

Loss of a quarter of the visual field;
Loss of entire upper or lower field of vision; and
Patches (scotomas) missing in the field of vision.

You will usually experience loss of your visual field to one side. As a result, it is very common to have problems reading. It is difficult to locate the start of sentences if you have left-sided field loss, and it is harder to see ahead along the line of text if you have right-sided field loss (retrieved from http://www.stroke.org.uk).

Visual field loss is an inability to see either to the right or to the left of the center of field of vision. It is directly related to the site of stroke in the brain. Both eyes will be affected, but the effect may be different in each eye. Damage to the visual pathway, not the eye itself, results in loss of sight on one side in both eyes. Left visual field loss results in loss of some, or all, of vision on the left side, while right visual field loss results in loss of some, or all, of vision on the right side. However, the person may or may not be aware of this loss of vision. Other people may notice that he does not appear to see objects on one side, or he may bump into things quite easily. Visual field loss has obvious dangers, for instance, if someone is crossing the road, he may not be aware of cars coming from one side. If it makes reading difficult, there are strategies to help. Place a ruler under each line as you read or ask for a typoscope (a piece of card with a pillar-box slit) that allows you to read only one line of text at a time. Drawing a line down the left-hand side of the page with a marker pen or holding a colored ruler vertically can also help with left visual field problems (retrieved from http://www.chss.org.uk).

Eye Movement Disorders

A stroke will cause a wide variety of eye movement disorders. You may experience a disturbance of rapid eye movements (saccades), which normally allow you to look from one object of interest to another. This may lead to difficulties with activities such as reading, sewing, playing cards, etc. Disruption of slow eye movements (smooth pursuit) results in inability to follow slow moving objects accurately. Compensatory fast jerky movements may replace slow eye movements. This may make it difficult to keep your visual attention on one object of interest (retrieved from http://www.chss.org.uk). A stroke can lead to a variety of problems with the fine nerve control that is needed to move your eyes. The main ones have been listed below:

Impaired eye movements: These may affect your eyes' ability to move from looking at one object to another or to follow a moving object. These problems make reading difficult and affect your general mobility.

Inability to move both eyes up, down, sideways or inwards: If the nerve control to your eye muscles is affected, one of your eyes may not move correctly. This may cause you to have blurred vision or double vision (diplopia).

Your eyes may move constantly. This means you see objects constantly wobbling which can be very distressing and disorientating. This condition is called nystagmus.

Impaired depth perception and difficulty locating objects: For example, when making a cup of tea, you misjudge the position of the cup and pour water over its edge rather than into it (retrieved from http://www.stroke.org.uk).

Visual Processing Problems

When someone looks at something, his eyes receive visual information which must then be processed by his brain. This enables him to recognize colors, someone he knows, and familiar objects, but this process can be affected by stroke. He may also experience a change in his awareness and perception of the world. This is

called visual neglect and is the most common type of visual processing problem. It is more common in people who have had a stroke affecting the left side of their body. Visual neglect is a disorder which can reduce someone's ability to look, listen or make movements towards one-half of his environment. He may be unaware of objects and people on the affected side and may ignore people or bump into things without realizing they are there (retrieved from http://www.stroke.org.uk).

Some Other Eye Difficulties

A person may experience some other eye difficulties after a stroke. If someone has weakness in his facial muscles and eyelid muscles, he may have difficulty closing one eye. This can lead to a dry eye and irritation. He could be more sensitive to light (called photophobia) and may benefit from tinted glasses or sunglasses (retrieved from http://www.stroke.org.uk). Reduced vision: It is common to experience a reduction in vision as someone ages. A stroke may be associated with a pre-existing health problem such as high blood pressure (hypertension) or diabetes. Some reduction in vision may be a direct result of high blood pressure or diabetes rather than stroke. The combination of a reduced vision following a stroke and any pre-existing reduced vision can be very debilitating (retrieved from http://www.chss.org.uk).

Double vision: People who have never had double vision (diplopia) do not realize how horrible it is. It can make them feel dizzy, sick, and lose their balance. Double vision is common when a stroke affects the back of someone's brain. Double vision has dangers, for instance, when making a cup of tea, a person can miss the teapot with the boiling water as he sees two teapots (retrieved from http://www.chss.org.uk).

DISCUSSIONS AND CONCLUSIONS

Various definitions suggested for two major points covered in this paper, (visual deficiencies) and (translation) respectively, were mentioned. A brief description and classification of major types of visual impairments was pointed out. In this chapter, the researcher investigates these deficiencies one by one and their influences on the task of translation. He attempts to examine how and to what extent each of them can have any influence on the process of translation and its product if the translator suffers from any kind of them. Finally, based on his analyses and findings, the researcher makes a comparison between them and draws concluding points in order to answer research questions and either verify or reject the hypotheses.

DISCUSSIONS

This section is based on the points discussed at the beginning of the essay and the points mentioned in the second chapter. Thus, in order to understand better, readers are recommended to study '1.Introduction' and '2.Literature Review' before starting to study the following paragraphs.

Introduction

Starting the discussion, it is crucial to make distinction between low vision (visual impairment or visual deficiency) and complete blindness. Although several connotations have been suggested for the term 'blindness', the researcher considers 'complete loss of vision' as the definition to which he refers throughout the whole essay. He believes that any amount of capacity to see objects, even to the least possible extent, should be regarded as visual deficiency so that the boundary between blindness and low vision becomes more obvious.

Blindness and low level of vision exert distinct influences and restrictions on the phenomenon of translation. Each of them is associated with particular circumstances in this area. Low level of vision allows the translator to use the print format (either while reading the source text or writing the target text) under specific circumstances. They may use specific paper types, utilize particular stationery to write, work under certain amounts of light, and so on. Complete blindness, on the other hand, discards paper and pencil out of use by these individuals. The media of communication for blind translators will switch completely from print format to audio and haptic channels. Computer usage also has different dimensions for blind translators and those who are poor in vision. While electronic technology for visually impaired users focuses on such options as screen magnification, the appearance of colors on the screen and their contrast, cursor size, and other vision-related aspects, it is mainly associated with vocal dimensions for blind users, including use of screen readers and speech synthesizers.

A general typology of visual problems has already been mentioned at the beginning of this essay. They lead to different consequential phenomena and exert various influences on translation. The severity of vision loss has a direct relation to its influence on different translation activities. The ability to perceive colors and contrast is significant in translating documents containing

colorful pictures, while the ability to recognize objects is important in settings where the translator is to navigate with his client as in community interpreting and translation for tourists. Central vision or peripheral vision loss also differ in their effects associated with the task of translation. A translator with central vision loss finds it challenging to read contents located on the center of the page, while deficiencies in the peripheral vision lead to the ignorance of contents written on the marginal areas of the paper.

To see the world as a blur causes other types of difficulties. This would necessitate specific amounts of light under specific circumstances to avoid shadows which are troublesome for such individuals. This condition can have more serious consequences in some types of translation such as audiovisual translation, oral translation, and translation of such visual elements as tables, figures, diagrams, and so on. 'Tunnel vision' and lack of capacity to see objects on each side would cause the translator to get into trouble translating the words and sentences located on the central or peripheral areas of the page.

All members of a population, from an individual living in the farthest zone of the country to its leaders and governmental officials, should attempt to protect from such a precious treasure as eyesight possessed by them. Blind and visually impaired individuals are among other people living in a country. Thus, governments and their officials must take their living conditions and working requirements into account. Among their working requirements are the facilities and accommodations essential for the task of translation. Such necessities include magnifying applications, screen readers, speech synthesizers, optical character recognition (OCR), Braille devices, accessible data sources, and so forth.

The dichotomy drawn between the economic effects of visual impairments is also noteworthy and should be taken into account. The economic consequences of visual problems and their influences on translation are assumed under the second classification (indirect effects). Translation is a textual phenomenon (by text, the researcher means both spoken and written texts). It is necessary to make this aspect of translation accessible to blind and visually impaired translators. This can be done through investment on designing and providing various accommodations and assistive technologies contributing to such individuals to perform the task of translation.

Macular Degeneration (MD)

Macular Degeneration (MD) and all its dichotomies (Early Onset MD and Age-related MD) or even (wet and dry AMD) are all diseases resulting in the loss of central vision. The criteria to distinguish between Early Onset MD and Age-related MD are the factors causing them. Early Onset MD is caused by inherited conditions, considered as internal factors. AMD, on the other hand, has external causes including age, smoking, wrong diets, and so on. The subclassification of AMD is cause-based too, however it is associated with more specialized factors. The presence of fatty deposits under the light-sensing cells in the retina and the process of 'neovascularization' were mentioned as the major causes of dry and wet AMD respectively.

All types of MD result in the central vision loss. This is the main point related to its influence on translation which should be discussed. Central vision loss has serious challenges for the translator. Major points mentioned in a document are written in the text body which is located on the page from top to its bottom and starts from left to right or vice versa. The translator may move the document to either side in order to se the words and sentences written on the center of the page. However, this would be tiresome and time-consuming in long-term projects. Translators suffering from central vision loss get into more trouble in audiovisual translation. Movies always involve captions and images passing rapidly. It would be very difficult, time-consuming, and irritating for such translators to pause between subsequent sections of a single movie to find the information located on the center of the screen which are significant for translation.

Glaucoma

Another serious danger for human eyesight is the disease called glaucoma and its subcategories. It has already been said that most of people with glaucoma may be unaware of their patience up to the time at which a large amount of vision is lost and the individual is closed to blindness. Such an oblivion would be a great problem since the patient may have a higher chance of remedy if he gets aware of his disease at an earlier stage.

Regarding the vision loss, glaucoma stands at an opposite position to MD. Contrary to MD, glaucoma will result in loss of peripheral vision. Its further consequences are tunnel and blurred vision, halos around light sources, and blind spots. The final consequence and the worst one is loss of vision completely. Peripheral vision loss would cause the translator to miss such items as page numbers and the notes taken on the marginal areas of the page. Once again, he may attempt to solve this problem by moving the document, however, like the previous case, this would be tiresome and waste his time in long-term projects. The difficulties due to tunnel and

blurred vision already mentioned should be added to these problems. Halos around light sources are more troublesome in the case of translation on computer where screen light and the halos emerging before various areas of the translator's vision cause great difficulties. Blind spots would cause difficulties in the translation of texts containing key words since the key words may be hidden under the spots and the translator neglects them unintentionally.

Diabetic Retinopathy

Diabetic Retinopathy, as suggested by its name, is a disease developing due to the increased blood sugar. The descriptions already mentioned (see section 2.4) reveal that Diabetic Retinopathy starts and develops by damages to retinal blood vessels containing red cells whose function is to support other cells of body by the nutrients necessary for them. There's no doubt that the primary and most significant advice to prevent Diabetic Retinopathy is to consistently control the blood sugar and its pressure and to prevent it to increase by a regular diet and correct exercises.

Back to the major issue of the research, the forth and the eighth sentences in the first paragraph of section 2.4 are noteworthy and should be discussed. The red, grey, and black dots emerging in the vision field can be problematic for the translator. He would face difficulties to distinguish between these unreal dots and the punctuation used in the text. They may also cause some key letters and words to be hidden under themselves. These phenomena would have negative effects on his rendering. These imaginative dots will be more troublesome while translating a source text written on a colorful material. These materials are more difficult for individuals suffering from Diabetic Retinopathy as they are unable to distinguish between such imaginative dots and the colorful dots existing in the text.

It has been said that Macular Edema (ME) is another problem caused by Diabetic Retinopathy. ME results in blurred vision which causes the patient to feel as though looking through a rumpled cellophane. This type of blurred vision has more challenging consequences for the translator. He would make more attempts and exert more pressure on his eyes to read the document. Such an extra pressure makes the translator tired of his task at an earlier stage. It would be harmful to exert such a superfluous pressure on the eyesight as that will force it to function beyond its capacity.

Cataract

Cataract or cataracts (either one or both eyes affected) is the forth eye disease discussed here. In this disease and its examination, it is crucial to firstly determine whether the condition has developed in one eye (cataract without s) or in both eyes (cataracts). Each one may have separate consequences and effects on translation. The factors causing cataract are divided into two classes: human and nonhuman factors. Human-related factors are such factors as smoking, long exposure to sunlight, some diseases like diabetes, steroid use, and eye injuries. Such factors are caused by human himself and he can control and prevent them. Age and congenital cataract are nonhuman factors in which human has no intervention and it is beyond his capacity to control and prevent them.

Six significant symptoms were mentioned for cataract: cloudy or blurry vision, halos around lights at night, problems with glare from sunlight or bright lights, poor night vision, reduced color vision, and double vision. Each of them has one or several consequences if developed in a translator. Cloudy and blurry vision, as indicated before, forces the translator to use his eyesight more than its capacity, resulting in fatigue and additional damages to vision. Halos around lights at night may make the translator feel translation at night to be irritating. As a result, he has to restrict his translation time to day time. Such a restriction can be troublesome in the case of long-term projects. The third problem is difficulty to glare bright light sources. This will be problematic for the translator in such projects as audiovisual translation and computer-aided translation where screen light may disturbe his eyes. Poor night vision leads to the same problems as those caused by halos around lights at night.

Translators suffering from reduced color vision face difficulties translating documents written on colorful materials and information given about the pictures in the document. The most challenging condition will occur for translators suffering from double vision. These individuals find it difficult to translate any kind of text since everything, from letters and words to visual elements and pictures, are seen as though a couple of them have been written. In addition to reading the source text, it is also difficult to write the target text as whatever they write are seen twice by them. Therefore, it becomes difficult for them to trace each letter written after the previous one and to check the whole text.

Refractive Error

Nearsightedness (myopia) and farsightedness (hyperopia) are the optical defects labled under the title refractive errors. The researcher takes a specific

look at these two deficiencies. They are in a direct relation to the task of translation. They should be examined one by one and the role played by each one in the realm of translation must be investigated. A translator with myopia has to keep the document closed to his eyes to be able to read. If he holds the paper with his hand, it will be difficult for him to write because it will be hard to hold the paper closed to the eyes, write on it and keep in balance the paper far from table's surface simultaneously. He may bend his body forward and hold his head closed to the document to read. This is a temporary solution since keeping the body in this position for a long time, in the case of long projects, would make the translator feel pains in his back and neck and exhaust his energy rapidly. Myopia has more severe consequences in the case of documents typed in small fontsizes. For example, such individuals face great difficulties looking up words in dictionaries as they are by default printed in lower fontsizes. It is difficult for such individuals to translate using computer since keeping the eyes too near of the screen would be harmful for vision and cause great pains in the eyes.
Hyperopia creates less difficulties for translators. Sometimes, the translator enjoys sitting in a reasonable distance from the text and feels more comfortable to translate. Farsightedness can also be helpful for an interpretor located far from the listeners in which his condition helps him make eye contact with the audience and receive some feedback about his performance using their facial expressions. The only opportunity in which farsightedness may be troublesome for the translator is to work in offices where spatial limitations would not allow him to put the document in a more distance from his eyesight.

Retinitis Pigmentosa (RP) (Also Called Pigmentary Retinopathy)

Retinitis Pigmentosa (RP) is among the diseases caused by hereditary factors. So, it is classified as diseases developed by nonhuman causes (those which are beyond the human's control and intention). Following blindness, nightblindness and tunnel vision are the ultimate consequences of RP. These two conditions and their corresponding effects on translation have already been discussed.

Optic Nerve Atrophy (ONA)

Nerves are the connection canals between brain and all other parts of the body. They transfer the stimuli each organ achieves from the environment to the brain and send its command to the organ to determine its response. Any kind of damage to the nerves will impair this process. Therefore, any damage to optical nerves violate the relationships between the eyes and brain, the commanding organ, leading to problems in vision.

Several factors have been mentioned to cause ONA. It is possible to classify them as both human and nonhuman factors. For instance, trauma, shock, tumor, and hypoxia are human factors in which human intervention is observable. In some occasions, however, their occurrence is out of human desire. These points indicate that human and nonhuman factors are two poles on a continuum and not mutually exclusive.

Four symptoms were mentioned for ONA: overall dimming of vision, loss of acuity, reduced color vision, and finally, total blindness, each having special influences on translation. Dimming of vision is influential in all aspects of written translation, from reading the source text and writing the translation to using dictionaries and other data sources. Such an influence is irrespective of the text type, its genre, register, style, and also, irrespective of translator's educational level and his linguistic and nonlinguistic knowledge. Loss of acuity has the same consequences as dimming of vision. Finally, reduced color vision will be troublesome in translating colorful materials such as pictures and texts written on specific colorful materials. Total blindness and its effects on translation will be investigated in details in a separate section.

Stroke

All parts of your body are sensitive to any kind of damage to the brain. The role your brain plays in your body is similar to the role played by a commander directing a troop of soldiers. All soldiers must obey the commander. The commander determines the task each soldier is to perform and manages the relationships between them. All troop members and their fates are dependent upon the commander and his status. Such an opportunity exists for human's body where brain is the commander and all body organs follow it.
Vision is under the direct observation of the brain. So, any type of brain injury including stroke will directly affect visual activities. Such visual deficiencies can lead to awkward and undesirable phenomena, specially in the case of permanent loss of vision. Even temporary deficiencies may have undesirable consequences. The translator, during the period of visual impairment, has to reject many projects which may influence his psychological status and his credit among his clients. Visual field loss and blurred or double vision following stroke all affect translation. These symptoms and their effects have already been discussed.

Central vision and visual field losses and their effects on translation were pointed out before. It can be added

that partial vision loss is preferable to complete one because complete vision loss will deprive the translator of many activities while partial one will not or impose less restrictions upon him. Regarding visual field loss, the deficiency on the left side is troublesome for the translator to read texts written in Latin and Greek languages, while right vision loss makes it difficult for him to read Arabic and Persian texts. The translators with loss of upper or lower field of vision get into trouble to read Chinese, Japanese, and Korean documents. It is also difficult for them to read such parts of all documents as titles and footnotes.

Eye movement disorders are among visual problems caused by stroke whose effects on translation are very sensible to the translator. Both reading and writing involve eye movements. Even speaking, although to a lesser extent, is associated with eye movements as eye contact influences greatly communication between the addresser and addressee. The speed of translator's eye movement determines the speed with which he can finish the project. A disturbance in rapid eye movement reduces translator's speed of both moving his vision across the source text's lines and tracing rest of the line to write the next words. Such an individual faces great challenges to look up words in dictionaries as he has troubles to navigate his vision across dictionary's rows and columns.

The condition named nystagmus causes great difficulties for the translator. He sees the letters wobbling and therefore falls into great trouble to read the source text. Writing the target text is difficult too since each letter following the one previously written wobbles. This condition has severe problems regarding searching words in dictionaries. To see the words wobbling is a problem causing difficulties to translate with either computer or on the
paper.

Visual processing problems influence translation in a way very sensible to the translator. At the first, the translator has difficulties to comprehend the source text and to understand the meanings of lexical items and functions of grammatical structures. Even if he faces no challenges in these areas, his speed of source text comprehension will not be the same as the time before the stroke. Similar problems are also likely to occur in producing the receptor text. The translator either has difficulty to find appropriate words and structures in the target language or produces the receptor text in a lower speed. The translations by such people are likely to contain numerous lexical and structural errors.

Of course, it is wrong to assign all visual impairments to stroke. Several factors causing eye problems like hereditary conditions, high blood pressure, diabetes, injuries, smoking, etc., have already been mentioned. Translators who have no serious visual problems are advised to be aware of such factors and attempt to avoid them so that they enjoy translation using a healthy eyesight.

Translators suffering from photophobia find it painful to translate using computer. Screen light will irritate their eyes. However, the easy option for them is to decrease the screen light. They also suffer from writing on shiny papers. Double vision makes oral translation a challenging task. Double vision makes it difficult for the interpretor to stand upright and keep his balance when he has to stand beside the speaker in such settings as festivals, conferences, and courtrooms. The difficulties will increase when the interpretor should walk with the individual. In addition to keeping balance, Ignoring the objects on the way and bumping into them increase his problems.

Blindness

Blindness is the term used to refer to a level of visual deficiency higher than being poor in vision. While visual impairment means to have vision even as little as to be able to see your hand before your eyes, blindness denotes no vision at all. It means to see only darkness. Several vision-related diseases like glaucoma, RP, ONA, etc., have been mentioned to cause blindness. In addition to such diseases, there are some other factors like shock, injuries, accidents, smoking, severe sun light, and so forth. Blindness and visual deficiency have similar influences on the individuals. However, there are areas in which they lead to different consequences.
As blind translators cannot use their vision, they mostly use their auditory and haptic capacities to compensate the lack of vision. Specific adjustments are made by them to be able to translate. They use their tactile senses in the case of translation utilizing Braille devices. However, the auditory channel is used more than haptic sense. Most of blind translators use screen readers and speech synthesizers. Thus, computer encompasses a wider domain in translation by blind people. They can also use electronic dictionaries, encyclopedias, and above all, such a comprehensive and easy-to-access data source as Internet.

It should not be forgotten that complete lack of vision can impose some more severe restrictions on translators. It is a serious challenge for a blind individual to translate such visual elements as figures, diagrams, tables, and pictures. In face-to-face communication, a

blind translator has no access to such meaningful elements as eye contact, facial expressions, gestures and body languages, and so on. One of the most challenging conditions caused by blindness is when the translator should accompany the client in his navigations between different locations.

CONCLUSIONS

Translation is a procedure in which numerous roles are played by several agents. Human plays the primary and most crucial role. Even in the case of translation by computer (machine translation), human role and his significance cannot be ignored as it is human who designs and develops computer applications to translate. Human uses his body organs to perform his tasks including translation. One of the major parts of human body which is very important in translation and performs a variety of functions is his pair of eyes.

Vision and its high significance in human life are hidden on nobody. In fact, damage to each part of human's body will more or less influence one or several aspects of his private and professional life. This is true for translators. Damage to any part of translator's body has high or low influence on his capacity to translate and on his performance. Among human's senses, his visual sense plays a very crucial role in translation and any deficiency in his eyesight will affect directly or indirectly his translation process and product.

To compare blind and visually impaired translators, there are certain points in which they share the same conditions and difficulties and there are points where their problems and challenges differ from each other. They both work in specific circumstances different from sighted translators. Both use specific devices and technologies not used by or even unknown to other people. Both desire to receive projects containing less visual elements. Regarding their differences, visually impaired individuals can use their vision to a restricted extent while blind people are deprived of any amount of vision and switch to other senses. Most of the adjustments made by visually impaired individuals involve amount of light, contrast of colors, font size, and cursor size, while blind individuals mostly switch to audio and tactile channels. Translators poor in vision have less difficulties than blind ones to translate such visual elements as figures, tables, and diagrams, while blind translators are most successful in projects concerned with auditory competence such as oral translation.

Several factors were mentioned to cause visual deficiencies. They include hereditary conditions, high blood pressure, diabetes, shock, trauma, injury, tumor, smoking, exposure to ultraviolet radiation, vitamin A deficiency, age, wrong diets, sunlight, stroke, and hypoxia. They were divided into human and nonhuman factors based on whether to be possible to control and prevent or not. This dichotomy is not mutually exclusive. Everybody is advised to keep these factors in his mind since this awareness is helpful to stop their occurrences.
Macular Degeneration (MD), glaucoma, Diabetic Retinopathy, cataract, refractive errors, Retinitis Pigmentosa (RP), and ONA were the eye diseases discussed so far. Stroke was the only case which can be classified as both a deficiency and a causal factor. They result in a variety of visual problems. These problems include blurred vision, tunnel vision, central or peripheral vision loss, halos around light sources, blind spots, problems with glare from bright lights, reduced color vision, double vision, nearsightedness and farsightedness, night blindness, loss of acuity, eye movement disorders, and visual processing problems. Each of these visual problems and their corresponding effects on the task of translation have already been investigated. It is time to compare them against each other to see which one has more severe consequences and which one less severe ones.

Among the visual problems mentioned, farsightedness makes the least amount of troubles for the translator. It seems to be more helpful than being troublesome. To keep the document far from the eyes and to be able to see the audience seated in a distance from the interpretor contribute to the task of translation to be done more easily. It can be concluded that farsightedness by itself makes no serious problem and existence of other visual problems beside hyperopia can be troublesome.

Blurred vision occupies the highest point concerned with affecting translation phenomenon. When someone feels as though he is looking through a rumpled cellophane, all tasks become challenging for him to do. Such a challenge will be more sensible in the case of reading and writing. Blurred vision makes it difficult for the translator to perform any visual task, from reading and writing to looking at pictures and watching movies. The effect of blurred vision is irrespective of the individual's expertise and profession. The translator suffering from blurred vision gets into trouble to translate any text, whether easy or difficult, on paper or on computer, with high or low linguistic knowledge, etc. It can even be influential in oral translation when the translator has to accompany the client walking in different locations.

The two visual problems, central vision loss and visual field loss, occupy two points opposite to each other. While the former removes the central point in the document out of vision, the latter makes the left or right side out of the vision. People with each of them are able to see the areas which are out of the other's capacity to

see. The problem can be solved if two translators, one suffering from central vision loss and the other from visual field loss, co-operate with each other so that each one helps the other to read the part out of his visual domain. This is an occasion rarely to occur.

Halos around light sources, photophobia, reduced color vision, blind spots, and night blindness are the visual problems creating less severe and easy-to-solve difficulties for a translator. Computers contribute to solve the first three problems. The user can use the various options existing in the computer to make such adjustments as screen color, magnification of content, colors contrast, and options to change the screen light. Printed documents are out of this range and the only area troublesome for the translator. The problem of blind spots can be solved by moving the document to different directions so that the words nonvisible under such spots appear. Night blindness exerts no direct influence on the translation. It only leads to time restrictions in which the translator's time to translate will be restricted to day time.

In addition to blurred vision, there are four other problems which occupy the highest point regarding the difficulties they create for translators. They are nearsightedness, double vision, eye movement disorders, and visual processing problems. They exert very deep influences on translation. Nearsightedness results in translator to feel tired of translation at an early stage while the other three cases make translation almost an impossible task for him. They are all harmful to the eyesight as they all force the translator to use his vision beyond its real capacity.

Blurred vision, blind spots, and eye movement disorders, more than others, can create difficulties for oral translators (interpreters). In the process of interpretation, there are many factors such as gestures and body languages, facial expressions, eye contact, etc., bearing semantic value and influential on the task of interpretation. No visual problem, however, is troublesome in oral translation as much as visual processing problems. An interpretor suffering from visual processing problems will be unable to perform any translation-related activities competently. He cannot find appropriate words and structures in both languages or at least does it with a very low speed. Such a problem, in interpretation, where translation speed plays a very crucial role (specially in simultaneous interpretation), makes the task approximately impossible for the patient.

There's no doubt that visual impairment is preferable to complete blindness. A visually impaired person, of course with specific limitations, can read and write and is able to navigate with a small amount of independence. A blind individual, on the other hand, has no choice to read and write like sighted people. His navigation is less independent than people poor in vision. Blind people need help of sighted individuals for navigation more than visually impaired people.

There are many areas in which blindness influences translation process and its product. Blind translators mostly use computer for the task of translation. They use such technologies as screen readers, speech synthesizers, and optical character recognition (OCR). Thus, the audio options of computer have more significance for them. Blindness also causes translators to utilize specific technologies to read tables, figures, diagrams, and so on. Paper and pencil has no role for such translators. Finally, blindness makes translators unable to use dictionaries and other data sources in print format. Hence, these translators tend to use electronic data sources made accessible to them by assistive technologies.

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