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THE LANGUAGE OF MEDICINE IN FIVE EASY PIECES
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Abstract
The language medicine in five easy pieces covers five important and characteristic aspects of the
language of medicine that linguists will appreciate. Participants will walk away with roadmaps for
exercises, and a few good explanations of what it is that medical translators do and can learn, short of
becoming medical students for seven years in order to become truly fluent and conversant in the language
of medicine.

Introduction
The abstract of this session is missing a very important phrase--indeed, probably the main point of this
article. So, without further ado I will start with what got omitted.

Territorial boundaries
The sentence “Participants will walk away with roadmaps for exercises and a few good explanations of
what medical translators do and can learn” is missing a conditional subordinate phrase “short of becoming
medical students for 7 years in order to become truly fluent and conversant in the language of medicine.”
Indeed, how do you translate subject matter with a two-thousand year history, totally fabricated out Latin
and Greek, with which even doctors cannot keep pace, outside of their own specializations? How do
medical translators have the nerve to trespass, not only on the vastness of the territory of medicine, but to
work within it, fully immersed and credentialed, when human lives are at stake? It takes 7 years for a
medical doctor to obtain a license. What’s a 10-week medical translation course in comparison…?

To know vs. to understand medicine
To answer this question about territorial boundaries--as an instructor, I borrowed from the work of
Jammal (1999), a medical translation expert and academic. The point borrowed is that a medical doctor
“knows” medicine (the heart, the kidneys, the gut... how each organ works in part and relative to the
whole, how to treat it, how to diagnose it, etc.) whereas a translator can only aspire to “understand”. Of
course there are various degrees of understanding, and translators will never understand the gut in the
same way that a doctor might understand it, or even lovingly admire it (Enders, 2015), but nonetheless
that is what translators can do, even if in some cases it only amounts to “gisting” medicine.

The translator’s advantage
Notwithstanding the fact that everyone can understand at least something of medicine, or it’s parts or its
whole…translators do have some very distinct advantages. Translation is the business, science and art of
language(s), of building bridges, or providing access to cultures, to knowledge, to information and
communication…And most people admire and recognize the skillfulness with which translators work
with languages, especially when they are given access in translation to an otherwise closed or
unintelligible situation, topic, event, condition, article, report etc… For this reason, as Lori Thicke
(2011a) has put it: “There is an elephant in the access to information room”. Indeed, the translator’s
advantage is knowing at least two language(s) so expertly that they are able to create parallel worlds,
usually without even losing any of the nuances, in situations where language and communication
otherwise remain completely unintelligible. And, most importantly it is fair to say that translators also
have a proven ability to learn at least two languages, and to use them expertly and concurrently, in ways
unlike what other people do.

The language of medicine
From then on, with each profession--medicine and medical translation, clearly operating in its own turf, each with its own knowledge base, skills, purposes and respective object of interpretation and care, enough acknowledged and recognized differences exist to share the language of medicine, without territorial conflict. Both professions can lay a different claim to the vastness of the language of medicine; one profession appropriating the language of medicine to save lives and the other appropriating--in some cases just “gisting it”--to provide access to knowledge and information, which in some instances might also be life-preserving (Thicke, 2011b). It is in mutual recognition of the different uses to which the language of medicine is put that it becomes possible to build and work together, kindly!

Thus, from the instructor’s perspective, the task begins with teaching the language of medicine, separate from medicine which is inclusive of the practice of medicine (e.g.; giving shots, measuring BP, removing stitches, interpreting heart rhythms, delivering babies…and far more delicate and complex activity, with subsumed tasks and operations…). The language of medicine for medical translation is just linguistics, just the grammar, just the rules and patterns that organize and generate the linguistic forms through which the performance and practice of medicine arises, just the comparative and stylistic differences between source and target languages on a variety of different dimensions, just the sociolinguistics, and in particular just a subset of the terminology and its uses in reference to anatomy.

The benefit of this approach is that it capitalizes on what translators know and understand best: language(s) and how to learn them. Indeed, a new language, in this case the language of medicine--is precisely what is of special interest to translators--and even to some doctors who are interested in medical translation, and who expect this focus on linguistics in a language they know better than anyone else (e.g.; Wulff, 2004)

**Vast literature on translating the language of medicine**
The task of teaching the language of medicine for translation, to translators (and medical professionals interested in medical translation) is greatly facilitated by the large body of literature that exists in the domain of medical translation. This is a body of literature where academic scholars and professionals have already mapped out a vast territory of linguistic and sociolinguistic characteristics, terminological particularities, etymological and historical properties, stylistic and comparative linguistic phenomena of the language of medicine in English, in French, in other languages, and in translation from one to the other. For example, among the most prolific scholars of medical translation, and without excluding others, there are Balu (e.g. 2001, 2005, 2010), Jammal (e.g.; 1983, 1999, Rouleau (e.g.; 1994), Vandaele (e.g.; 2001) and Van Hoof (e.g.; 1970, 1986, 2000).

**Just five easy pieces of the language of medicine**
In this article, I have selected just five easy pieces – five really typical aspects of the language of medicine. These five aspects of the language of medicine: etymological decomposition and composition of medical terms, synonyms, abbreviations and eponyms, are however, systematic enough to be generative and to apply to unknown situations – beyond the exercises through which they are presented. Thus, they are useful beyond the ten weeks of class.

**First easy piece: Decomposition of medical fields**
The vastness of the domain of medical translation, mirroring the vastness of all the branches of medicine, usually comes as a bit of a surprise, and this is holding constant the many types of source texts (patient info, lab results, instructions for medicine and instruments, articles and reports, consent forms etc…) subsumed in each branch of medicine and across them. However, since most people can name quite a few branches of medicine, whether it is radiology, neurology or cardiology, this is also a good place to start, and an even better place to introduce Latin or Greek roots, prefixes and suffixes.
Beginning with an exercise that consists in decomposing all the branches of medicine, into their roots, prefixes and suffixes, this is one way of exploring the vast territory of medicine, without going into any of its details. If medical students rotate from one department to another during their internship years, medical translators can hop around too, albeit just linguistically, covering just about the full scope of branches and specializations in a single collaborative exercise.

Considering too that most of the branches of medicine end with the suffix “-ology” from the Greek meaning “study of” in the same family as the terms “logia” meaning theory, “logos” meaning discourse and “log” meaning speech, this is also an exercise in searching for the etymological meaning of the roots, and in understanding how they were composed to designate a particular “study” or specialized branch of medicine. For example, if you can figure out the meaning of “stoma” in ‘stomatology”, you are on your way. Likewise, if you stumble thinking it is connected to the study of the “stomach” then you will remember the next time that you were fooled.

So, the first easy piece included in an understanding of the language of medicine is an exercise in decomposing all the branches of medicine. This is much easier –as the very first introductory exercise-- than composing medical words using roots, prefixes and suffixes, since it builds almost exclusively on a single suffix “-ology” while providing all the root terms, with which most people are already familiar. Additionally, this is also a first opportunity to examine differences in translation, for example the linguistic differences between an ENT – Ear, Nose and Throat specialty and ORL – Otorhinolaryngologie.

Second easy piece: Traditional composition of medical terms
With a bit of background on the etymological history of the language of medicine acquired via an exploration of the branches of medicine, including an initial appreciation of the difference in translation, the next easy piece is a tried-and-tested exercise in the composition of medical terms using prefixes, suffixes and roots. An exercise which consists in providing lists of prefixes such as ecto-, dys-, and peri, lists of roots such any of the ones previously discovered in the branches of medicine (e.g.; cardio-, neuro-, gastro-) or new ones such as thyro-, mammo- or aterio-, and lists of suffixes such as –ectomy, -algia, -itis, and asking participants both to find the meaning of the suffixes, prefixes and roots and then to find medical terms using those component parts, including an extra column for translations, as some of the prefixes do not necessarily correspond from French to English (e.g.; sous-cutané / subcutaneous, céphalo- or cérébrospinal / cerebrospinal but not *cephalospinal)

The advantage of the exercise is that it is both generative and high mileage. Once a selection of prefixes, suffixes and roots defined and identified, they form the building blocks of countless terms which will be easy to recognize beyond the very structured boundaries of the exercise.

At the end of this exercise too, some interesting notions about the history of the language of medicine start to emerge. The fact that it is such an ancient language, with written records dating as far back as the Greek antiquity, the Roman Empire and Medieval Europe. The fact that it combines both Greek and Latin to form new terms, and that despite the emergence of national medical languages, Latin and Greek remain the primary method of word formation. The fact that it is a completely fabricated language –some even say a “pedantic language”--using Latin and Greek, in an effort to designate anatomy with great precision and to describe pathological phenomena. And because of this long tradition of absorption, the fact that it is so permeable to importing terms, especially from the US, at the run of the 20th century and beyond.

This exercise also provides plenty of opportunity to begin highlighting the great care with which medical translation has to be performed since very similar prefixes such as hyper-/hypo- (e.g.; hyper tension and hypotension) or inter-/intra- (e.g.; intraluminal and interluminal) for example have very different meanings, with potentially very different and drastic consequences, in case of linguistic confusion.
Similarly, although overgeneralization is usually considered in language learning a normal phase in the process of assimilating a rule. This sort of mistake in a medical translation is at best embarrassing, but also potentially dangerous to human life. For example, phlebotomae are not vein tumors. They are sandflies.

**Third easy piece - Synonyms**

Once a succinct historical perspective on the language of medicine is in place, it is interesting to examine synonyms, in light of the diachronic forces of language and the etymology at play. Consider for example terms such as quadriplegia and tetraplegia which both refer to paralysis of all four limbs. Synonymy originates in the prefixes *quadra-* and *teta-* which both refer to the number four, respectively in Latin and Greek. The same sort of synonymy applies to the terms:

- **oculist** and **ophthalmologist**, both referring to eye specialists, with roots *ocul-* and *ophthalmo-* respectively borrowed from Latin and Greek, both meaning eye;
- **mastography** and **mammography**, with the roots **masto-** and **mammo-** both referring to the breast, each respectively borrowed from Greek and Latin;
- **lipocyte** and **adipocyte**, both meaning fat cells, with roots *liwo-** and **adipo-** respectively borrowed from Latin and Greek, both meaning fat;
- **endovascular** and **intravascular**, with the prefixes *endo-** and *intra-** both meaning inside, each respectively borrowed from Greek and Latin;
- **paracortical** and **juxtacortical**, with prefixes *juxta-** and *para-** meaning alongside or near (including for the polysemic prefix *para-* in this case), both respectively borrowed from Greek and Latin;
- **proctoscopy** and **rectoscopy** (but not *rectologist*) with roots *procto-** and **recto-** both referring to the anus, respectively borrowed from Greek and Latin;
- and countless more.

Diachronic forces are also at play in synonymy when scientific discoveries shed new light on medical phenomena. One of the most famous examples is perhaps the discovery of trisomy 21, a genetic disorder where there is an extra copy of the No. 21 chromosomes in every cell. That is, instead of a pair of No. 21 chromosomes in every cell of the person affected, there are three, thus creating a wide variety of symptoms in every organ system of the body. Since the discovery of trisomy No. 21 in 1959, other sorts of trisomies have been discovered. An extra copy of the No. 18 chromosomes is called Edward’s Syndrome. An extra copy of the No. 13 chromosomes is called Patau’s syndrome. However, the most famous, and first identified, is trisomy 21, also previously known as Down’s Syndrome or mongolism. Thus, in this case, synonymy arises to mark the advancement of medicine (Mégarbané. 2009). In this particular case also, translators have an opportunity to champion the cause of a disorder that was cruelly misunderstood for many years, and to take a stand, just by keeping their term bases up to date, and using the most scientifically precise designation of this genetic disorder.

Regional variations also account for synonymy. Lou Gehrig's disease in the US is called Charcot’s disease in France. In this case, however, another sort of eponymous explanation exists, which current trends in the standardization of medical terminology (TA) tend to bypass. Indeed current efforts in the standardization of medical terms have opted out of the prevalent use of eponyms for more scientifically transparent designations. Thus, on both sides of the Atlantic the preferred designation for Lou Gehrig’s disease and Charcot’s disease is now amyotrophic lateral sclerosis (ALS) and its equivalent in French sclérose latérale amyotrophique (SLA).

Brucellosis, a bacterial infection transmitted to humans by animals, or by animal products (such as non-pasteurized milk), infected with the *Brucella* bacterium, is also called Gibraltar Fever, Rock Fever, Malta Fever, Mediterranean Fever, Bang’s Disease and undulant fever. The disease appears to have originated in Malta and then spread across the Mediterranean and to the USA. Thus, in this case of synonymy, there
is also a case of *serial* toponomy, where the disease is conferred the name of the location of its epidemiological origins.

Just as for any other aspect of the language of medicine, great care must also be taken with synonyms to avoid overgeneralizations or unverified meaning. In the case of overgeneralization, one might assume, considering the two prefixes *hyper-* and *supra-*, both meaning “elevated”, each respectively borrowed from Greek and Latin, that they are synonymous to the point of permutation or of being exchangeable. However, it turns out that usage has overruled such an assumption, and that high blood pressure is designated hypertension rather than *supratension – both in French and in English. Similarly, the prefixes *sub-* and *infra-*, meaning “under” are not necessarily exchangeable, as in for example the term subconscious mind, which is never called *infraconscious mind, both in French and in English.

Otherwise, it is axiomatic in translation to verify meaning, especially of terms which might appear synonymous. For example, the terms peptic, gastric and duodenal in reference to an ulcer are hardly synonymous. A duodenal ulcer is located in the duodenum. A gastric ulcer is located in the stomach, and a peptic ulcer is located either in the stomach or the duodenum (Medline Plus).

Indeed, the possibility of an error in the synonymy of medical terms is truly dangerous, and not only from a medical standpoint. The terms “elective termination of pregnancy” (ETP), “therapeutic abortion”, “elective abortion” and “induced abortion” all refer to the termination of pregnancy, in contrast to more spontaneous forms of abortion or miscarriage. However, these terms are used to refer to different termination procedures under different circumstances. Therapeutic abortions usually reference abortions where the mother’s health or the fetus’ development is at risk, whereas elective forms of abortion reference women’s right to choose to end their pregnancies (Harvard Health Publications.) Thus, a linguistic error in the use of the language of medicine, and in particular an error of synonymy, can have serious consequences, especially when the error also clashes with legal systems or even just opposing attitudes and beliefs. The same holds true in French for the terms interruption volontaire d’une grossesse (IVG), interruption médicale d’une grossesse (IMG), interruption thérapeutique d’une grossesse (ITG), referring to different sorts of abortions (avortement) – and not to be confused, in some countries, under penalty of law.

Thus, the third easy piece included in an understanding of the language of medicine for the purposes of translation is an exercise in the exploration of the synonymy of medical terms and their translation(s). The exercise consists in both providing synonyms and requesting explanations (e.g.; in terms of origin, the advancement of scientific research, diachrony, absorption or other forces of language regulation) and translation. Alternatively, this exercise consists in finding medical synonyms, that is, real ones, which is a non –trivial pursuit, and their translations.

**Fourth easy piece – Abbreviations**

Another significant aspect of the language of medicine is the abundance of abbreviations. Abbreviations function both to simplify professional languages and to make them more precise. Indeed it would be far too cumbersome and time consuming to talk about “light amplification by stimulated emission of radiation” every time there was a reference to LASER technology, especially in medicine! Abbreviations also index very precise phenomena, instruments, processes, diagnoses, anatomical parts etc…, so they are useful on more counts than one.

However, not all abbreviations are equal, nor do they translate! A typology of abbreviations distinguishes for example between initialisms, acronyms, apocope, aphorese and syncope, each exemplified below.

- **Initialisms** are abbreviations where only the initial letter of a word is retained. This is the case of mnemonic phrases and jingles used by medical students and others to remember the names of
such items as the 27 bones of the human hand or the 26 bones of the human foot. For example, “Sally Left The Party To Take Cathy Home” is a mnemonic for just the 8 carpal (wrist) bones: scaphoid, lunate, triquetrum, pisiform, trapezium, trapezoid, capitate and hamate (from lateral to medial in the proximal row and then distal row). This is also the case for such terms as MRI (Magnetic Resonance Imagery), IUD (Intra-Uterine Device), BP (Blood Pressure), or LV (Left Ventricle) and for the many abbreviations found in medical prescriptions (See Wikipedia (9) for a list abbreviations in medical prescriptions, and Wikipedia (8) for a list of medical abbreviations that includes many more initialisms).

- **Acronyms** are a particular case of initialism where the initial letters of words together form another word. This is the case of abbreviation, for example, in such terms as LASER (light amplification by stimulated emission of radiation) mentioned above, AIDS (Acquired Immune Deficiency Syndrome) and GERD (Gastroesophageal reflux disease).

- **Apocope** is a case of abbreviation when words are shortened, in particular when the end sound(s) of the word are dropped. For example, the following terms are cases of apocope: OB-GYN (Obstetrics and Gynecology), scan (scanogram), kilo (kilogram), PAP test (Papanikolaou test/smear), min (minutes, minimum), max (maximum).

- **Aphaeresis** is a case of abbreviation when words are shortened, in particular when the initial sound(s) of a word are dropped. For example, the term “scope” is a case of aphaeresis for endoscope, bronchoscope, colposcope, radioscopy, according to context.

- **Syncope** is a case of abbreviation when words are shortened, in particular when sound(s) in the middle of a word are dropped. For example, the abbreviations of chemical elements found in a Periodic Table include many cases of syncope: Tm (Thulium), Fm (Fermium), Cm (Curium) and Rn (Radon).

This small typology of abbreviations is perhaps nothing new in the age of *Txtng* (Crystal, 2008), where everyone shortens words, and initialisms include both word *contractions* (synopes) and *clippings* (apocope and aphaeresis), plus much more in terms of combination and word play. However, even if such a typology is far less creative in reference to medical abbreviations than it is in txtng, it is nonetheless informative in determining what was abbreviated and ultimately how to handle abbreviation and shorthand in translation.

Van Hoof (1986a) points out that translation is straightforward when abbreviations are the same from one language to the other (e.g; ECG/ ECG- electrocardiogram/ électrocardiogramme; EEG /EEG – electroencephalogram / électro-encéphalogramme); or when established equivalents exist (e.g.; AIDS / SIDA; DNA / AND, WHO / OMS). However, the translation of abbreviations becomes more complicated when no common or established abbreviations exist in the target language or when the source abbreviations are unconventional.

Faure (2012) highlights the presence of many English abbreviations in French. The domain of hormone initialisms (e.g. GH – Growth Hormone, FSH – Follicle Stimulation Hormone) is for example cited as significantly anglicized in French. Similarly, Faure cites the use of many English acronyms in French, such as TURP – TransUrethral Resection of the Prostate, functioning much like the widespread use of the English acronym LASER. However, extrapolating from Weinrich (1963), it might also be that direct borrowing is just an initial stage in the process of absorption, when languages are in contact. It might be that when languages are in contact, the intersection of terms begins with direct borrowing, which in many cases – but not necessarily all – will eventually give way to an equivalent, *separate* from the source, using the target resources, over the course of time. Faure cites several examples of “anglicisms” or direct borrowing, in particular the use of the English abbreviations in French connected to hepatitis (e.g.; HBV – Hepatis B virus ), which she qualifies as “lazy” in 2012, since it does not seem too difficult to use a
Thus, the absence of equivalence for English abbreviations is sometimes a diachronic issue that will resolve itself across time, when the imported concept, technology or practice is more widely used, and more deeply embedded in the language uses of the target community of practice, which will eventually find the way to express what is imported in the target language. In the interim, translators will have to continue working on a case by case basis, applying best practices that dictate retaining source abbreviations –even as an Anglicism, in those cases that are still fused with the target.

Thus, the fourth easy piece included in an understanding of the language of medicine for the purposes of translation is an exercise in abbreviation: expanding lists of abbreviations that are provided to populate term bases and linguistic toolkits, and finding established and common translations (or borrowings) for those abbreviations defined and expanded; alternatively, finding examples of abbreviations according to linguistic processes at play (e.g.; acronyms, initialisms, apocopes etc.) and their translations, or evidence that they exist as direct borrowings or Anglicisms in French, for example.

Fifth easy piece – Eponyms
The final easy piece for understanding the language of medicine for the purposes of translation, included in this article, is an exploration of eponymy. Eponyms are proper names conferred upon medical phenomena (designated more specifically patronymic or matronymic in the case of people, including heroes of mythology; and toponymic in the case of places). Medical phenomena designated with eponymous terms may consist of:

- **anatomical parts** (e.g. Broca’s area, Adam’s apple, Achilles’ tendon, Lockwood’s tendon, Islets of Langerhans, plus see Wikipedia (3) for a much longer list of hyperlinked eponymous anatomical parts);
- **diseases** (e.g.; Graves’ disease, Paget’s disease, Alzheimer’s disease, Parkinson’s disease, Crohn’s disease, plus see Wikipedia (2) for a much longer hyperlinked list eponymous diseases, and Hill 2005, yellow pages on Diseases and Syndromes);
- **tests** (e.g.; Apgar score, Rorschach test, Binet-Simon IQ tests, Pap smear, Gram staining, plus see Hill 2005 yellow pages for Reactions);
- **signs or symptoms** (e.g.; Babinski’s sign, Moro’s reflex, plus see Wikipedia (2) for a much longer hyperlinked list of eponymous medical signs and symptoms);
- **instruments or devices** (e.g.; Da Vinci [robotic] surgery; Crilewood, Olsen-Hegar, Collier, Webster, Castroviejo and Mayo needle holders; Mayo dissection scissors, Stevens tenotomy scissors, Metzenbaum and Potts-Smith bandage scissors, plus see Wikipedia (5) for a much long hyperlinked list of eponymous medical devices);
- **vaccines** (e.g.; Salk and Sabin vaccines for polio, Pasteur anti-rabies vaccine),
- **viruses** (e.g.; Epstein-Barr virus, West Nile virus, Ebola virus, Zika virus), and
- **bacteria** (e.g.; Koch’s bacillus, causative agent of tuberculosis, Pasteurella multocida causative agent of fowl cholera and other mammalian and avian diseases),
- **theories** (e.g.; Currie’s Law in physics, Gay-Lussac’s Law in Chemistry, plus see Wikipedia (7) for hyperlinked list of eponymous scientific laws), and many more, including
- **medical and surgical procedures or interventions** (for example.; Heimlich maneuver to avoid choking; plus see Wikipedia (6) for a list of eponymous surgical procedures, and Hill 2005 yellow pages for Operations).

Thus, countless eponyms exist as the above lists and references suggest. Indeed, dictionaries of medical eponyms are available (e.g.; Van Hoof, 1993; Whonamedit online with 8,000 eponyms). However, as mentioned previously, the tide of terminological standardization in medical education appears to be moving in the opposite direction, with a push for more scientifically precise terminology that better
captures the state of the art in medicine, and unifies various nomenclatures (Monin, 1996). Additionally, some eponyms are removed for their proven connections to crimes against humanity during WWII (e.g.; Strous and Edelman, 2007).

Examples of defunct eponyms, unrelated to unethical conditions of research, include Koch’s bacillus which is now mostly referenced *Mycobacterium tuberculosis* (MTB), the Salk and Sabin vaccines for polio are referenced respectively Inactivated polio vaccine (IPV) and Oral polio vaccine (OPV), and diseases such as Charcot-Marie-Tooth (CMT) disease as hereditary motor and sensory neuropathy (HMSN). However, whether, and in what cases, this standardization effort will succeed on a wide scale in resisting the “crowd” and sociolinguistic factors such as mentor/physician preferences, educational practices, preferences for regional or national variations and the forces of diachrony, is linguistic history unfolding before us, and yet to be determined.

Excluding ancient medical nomenclatures of the Middle East (for example, from Persia) and the Far East (for example, from China), a corpus of 50,000 anatomical terms exists in Western medical terminology, with many overlapping nomenclatures, evolving and absorbing from the Greek Antiquity and Roman Empire, to Medieval Europe and the Renaissance, pre and post-industrial Europe, and up to date (Kachlik et. al, 2008). Thus, documented standardization efforts, including a disdain for eponyms, have existed since, at least, 1895 when the first Latin Anatomical Nomenclature was published (Warwick, 1978; Kachlik et. al, 2008). Nonetheless, according to Ferguson and Thomas (2014) at least 10 eponymous diseases will survive…

The French term coined by Van Hoof (2001) for eponyms that have become so widely used that they have switch from proper noun to common noun, verb or adjective is “éponyme banalisé”, meaning “trivialized eponym”. And indeed countless eponyms have migrated (for example, from Van Hoof, 2001;

- **nouns**: pasteurization, kocherization, teslaization, darsonvalisation, leishmaniosis, brucellosis, borreliotosis, hahnemannism;
- **adjectives**: nabothian, rickettsial, spigelian, basedowified, faloppian, wolfian tubules;
- **verbs**: to pasteurize, to haffkinize, to roentgenize, to zenkerize, etc...

Beyond the obvious difficulties of translating a cultural reference such as Lou Gehrig, or the comparative processes of eponym “trivialization” from one language to another as identified by Van Hoof (2001), it is interesting to look at the explanations suggested for medical eponymy. On the charitable end of the spectrum, Van Hoof (1986) suggests a certain humanization of medicine. The practice of eponymy is ancient and medicine celebrates all those who have contributed so much, to so many, across history. Whether is it Marie Curie or Louis Pasteur, eponymy is a small token of gratitude.

Thus, the last easy piece included in an understanding the language of medicine, for the purposes of translation, is an exercise in eponymy: the search for information about the person or place having conferred his, her or its name upon medical phenomena; the search for information about the particular eponymous phenomenon, about the sort of disease, syndrome, anatomical part, virus that was eponymized, and the search for additional examples of eponyms in various categories (anatomical parts, diseases, syndromes, instruments and devices, signs and symptoms etc..), including an annotated column of translations, since contrary to expectations eponyms do not always remain the same from one language to another.

**Conclusion**

However useful the five easy pieces included in this article as exercises in understanding the language of medicine for translation purposes, they are a very small part of the linguistic characterization the language of medicine, and of the sorts of translation questions that might arise. These five easy pieces are a small part, both because they are necessarily selective, and because more and different aspects of the language of medicine have been identified as part of a linguistic understanding. Thousands of medical eponyms, thousands of medical synonyms and thousands of medical abbreviations exist! So, whatever is covered in
an exercise, even a long exercise, is necessarily short of many details and examples. Similarly, additional easy pieces are part of the understanding of the language of medicine for the purposes of translation, for example:

- plural forms borrowed from Latin and Greek (Faure (2012);
- more recent borrowings (anglicisms) arising in a connected world of languages in constant contact;
- word order and the problem of hypallage (Rouleau, 1994);
- comparative stylistic differences (e.g.; preferences for Latin and Greek vs Anglosaxon origin, of the concrete vs abstract, Van Hoof, 1986);
- levels of language use as a case of synonymy;
- use of prepositions; spelling variations (Faure 2012);
- haplology (Corbin & Plénat, 1992);
- the long and winding history of anatomical terminology and of the many nomenclatures;
- the different organizing principles of various medical nomenclatures;
- medical computer terminology (e.g.; coding of diseases, symptoms, treatments in health records),

plus much more that is all clearly significant in an understanding of the language of medicine for translation purposes.

The language of medicine is also 55,000 anatomical words rich! 55,000 words replete with synonyms, and not necessarily all connected in discourse, such as the approximately 320 pairs of muscles, 360 joints and 900 ligaments holding the human skeleton together, all of which medical students learn over the course of 7 years! Of course, translators have always benefited from dictionaries, and now benefit from mobile technology which provides very portable medical terminology. However, some basic medical anatomical terminology is required of translators, and especially of interpreters, if they are going to strive to understand or even just gist the language of medicine for translation purposes. This too is missing from the present selection of easy pieces, even though several frameworks exist for the systematic presentation of medical information to medical translators.

Vandaele (2001) for example offers a core concept approach to the presentation and organization of medical information for translation purposes. Indeed, this is a method of teaching linguistic and documentary information to translators, which a priori does not preclude the presentation of core anatomical information using the body, or the organs of various systems as core concepts. Van Hoof (2000), in a completely different way, has also sliced through medical terminology from the comparative perspective of French and English, focusing on images of the body in language use, for example expressions such as “avoir les mains vertes” in French and to “cross one’s fingers” in English. However, as fascinating as this fabulous comparative compendium of body images in language use stands, it will not assist with understanding and memorizing a basic and workable anatomical and/or clinical terminology for the purposes of medical translation. This focus too, on basic anatomical terminology, is missing from the present selection of easy pieces for understanding the language of medicine in translation.

Finally, a focus on sociolinguistic aspects of the language of medicine for translation purposes, and the systematic structuring of these aspects in language practice exercises, are also missing from the selection of easy pieces. Even though sociolinguistic issues inevitably creep into language uses as larger context, at the sentence or word combination levels, there are many ways of bringing these aspects to the foreground, for a systematic understanding of the sociolinguistic aspects of the language of medicine for translation purposes. For example, sociolinguistic aspects crept into the easy piece on synonomy as a source of duplication, since language uses vary from one individual to the next, and from one region to the next, for referencing the same concepts or body parts. We saw this for the case of Brucellosis. However, no easy piece was included for example on language variation according to different patient audiences. For example, a consent form addressing small patients under the age of five (called an assent form), the
consent form for teenagers (also called an assent form) and the consent form adults will use radically different language forms and terminology, the comparison of which serves to illustrate and highlight important sociolinguistic constraints on the language of medicine and its translation. Otherwise, the sociolinguistic aspects of the language of medicine for the purposes of translation are well mapped out, theorized and explained by Balliu (e.g.; 2001, 2005, 2010), a medical translation expert and academic.

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So, coming full-circle back to what got omitted from the abstract for the presentation of this article, namely: how do translators become conversant in the language of medicine for the purposes of translation, without studying it for 7 years? Well, I would hope that part of the medical translator’s success stems from an understanding of the fascinating linguistic aspects of the language of medicine and its use across so many centuries. I would also hope that practice in some well-structured exercises focused on selected aspects of the language of medicine, in addition to translation across many domains and genres would work. At least, this is what the participants in my courses do. And I have reason to believe that they exit initiated in the details, the care and mindfulness required for medical translation.

References

Anatomical terminology – IFAA – International Federation of Associations of Anatomists
http://www.ifaa.net/index.php/fipat


http://www.ncbi.nlm.nih.gov/pmc/articles/PMC4120137/

Harvard Health Publications – Abortion (Termination of pregnancy)
http://www.health.harvard.edu/womens-health/abortion-termination-of-pregnancy-


http://www.nature.com/gim/journal/v11/n9/full/gim200989a.html

Meline Plus (Peptic ulcer)
interpreters.cyracom.com/Login.aspx

Nomenclature anatomique
One minute medical school
Wikipedia (11) – List of medical abbreviations - Latin abbreviations
Wikipedia (12) - Acronyms in healthcare
https://en.wikipedia.org/wiki/Acronyms_in_healthcare
Wikipedia (13) – List of medical roots, prefixes and suffixes
Wikisynonyms
http://wikisynonyms.ipeirotis.com/
http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1079361/
Abstract: The unusually large gap between the Korean and English cultures challenges the translator to adapt or localize rather than translating faithfully. For example, a common respectful greeting means literally, “You’ve come,” and a Korean may end a conversation by saying “Then.” Based on realistic examples, the presentation will explore appropriate American English equivalents for Korean courtesy phrases, imagery and proverbs, and rhetorical organization. Audience participation is encouraged.

Note: This presentation is designed to be interactive. Accordingly, we cannot predict what questions or comments will be received or precisely how we will respond. The text that follows represents our prepared remarks.

Pragmatic Issues in Korean-to-English Translations

Introduction

Novice translators typically translate words by assigning each source-language (SL) word a target-language (TL) word. So for example, 신문 is “newspaper” and 친구 is “friend.” This is a good starting point, a rough approximation, but it isn’t sophisticated translation. As we know, the words of one language don’t often match up precisely with words in another language. The verb 보다 can mean “see, look, watch,” or it can mean “taste” (맛보다), “try” (시도하다), 시도해보다), or it can even function as an auxiliary that adds any of several subtle nuances to the main verb (let’s not even get into the conjunction 보다). So when your boss says, 나가봐요, is he saying “try and leave”? Not really…

As we grow and develop in the translation profession, we become more aware of these lexical dilemmas, and we develop ways of choosing among the options. I would call that “phase two” of the translator’s growth, a sort of adolescence. But the adolescent translator is still translating words or phrases, doing so rather mechanically, and is too focused on the trees and not enough on the forest. There’s more to learn.

The seasoned professional translator sees past the words and phrases of the source text to the author’s meaning, his thoughts, and expresses those thoughts as a TL writer would. The professional translator’s words, phrases, and sentence structures don’t often correspond in any obvious way to the source words, phrases, and sentence structures, but they make the same points. Consider, for example, what happens when the boss arrives in the morning and all the employees bow and say, 오셨습니까? A novice might translate this as “Have you come?” and an adolescent might write, “You’ve come, sir?” Both are superficially correct, but entirely inappropriate to the situation. What is the purpose, the pragmatic effect of the utterance? It’s a morning greeting to a superior in a work setting. What would American employees say? “Good morning, sir.” This professional translation bears no direct resemblance to the source text, but it has an equivalent function in the target language and culture. This infidelity is not a flaw, but a virtue.
In our presentation today, we intend to discuss a variety of situations where the professional translator must exercise his or her mental flexibility to purposely “mistranslate” where appropriate. The professional translator must draw upon all the tools of the target language—lexical, syntactic, and cultural—to find the appropriate solution. This appropriate, effective creativity is the mark of the seasoned professional.

**Courtesy Phrases**

Courtesy phrases are unusually formulaic compared to other utterances; many of them go back hundreds of years and have lost their original meanings. For example, “good-bye” originally meant “God be with you” (compare French *adieu*, Spanish *adios*, and even German *tschüss*, originally borrowed from French *adieu*), but we’ve lost track of that and often clip it to “bye” (“be with you”?)! Similarly, Italian *ciao* originally meant “your humble servant,” but nobody remembers that anymore. And Japanese *さようなら* really means “if that’s the way it is…,” kind of like 그럼. In none of these cases is the function anywhere near the literal meaning. So the key to appropriate translation is to see past the literal meaning to the practical function: greeting/gratitude/regret/approval/congratulation/condolence/departure/request/inquiry/etc. Additionally, the translator must also account for the participants’ identity and relationship, and the setting (business, personal, public event, etc.). The two cultures account for these things differently.

The handout contains a long list of common courtesy phrases used in Korean and English. Within each category, equivalences are not exact, and the translator must use his/her judgment. Both languages consider the relationship and level of formality; additional factors are listed in the third column.

Consider the following situations.

**Situation 1:** A group of coworkers goes to dinner after work, and of course the eldest announces that he’s buying. Everyone else responds, 잘 먹겠습니다. Setting aside the fact that Americans would go Dutch (더치페이하다) in such a situation unless there were some special reason to do otherwise, how would we express our gratitude? Would we say, “We’ll eat well”? “We’ll enjoy the meal”? Probably not.

The natural American response (after a feigned protest, “oh, you don’t have to do that!”) would be a rather generic “Thank you,” perhaps with some additional flourish such as “very much” or “kindly.” Afterward, we might say something like “Thank you for the lovely meal” (잘 먹었습니다). These expressions are rough equivalents at a functional level, not true translations.

**Situation 2:** A woman leaves her house on the way to work in the morning, and on exiting the gate, she sees a man standing five meters away on the sidewalk, just hanging around. She politely challenges him, 누구세요? What would an American say in a similar situation? “Who are you?” Probably not. Let’s look past the words to the purpose of the question: she wants him to justify his presence. If his answer is unacceptable, she might chase him away herself, call for help from her house, call the police, etc. Or he might turn out to be a welcome guest (though that’s unlikely because a guest would normally ring the bell). Or he might have some other legitimate reason for being there.
The equivalent American phrase for this purpose (a polite challenge) would be, “Can I help you?” It sounds like something a shopkeeper would say (무얼 드릴까요?), but its function is to ask the man to justify his presence. It’s not a direct, faithful translation, but it works.

Situation 3: A friend’s mother has died, and the Korean speaker responds with a common formula, 얼마나 마음이 상하시겠어요, conveying sympathy by showing understanding of the friend’s pain. What would be the American equivalent?

Answer: There is no direct equivalent, because condolence practices differ. The American practice is to offer support and encouragement, but avoid direct references to the bereaved’s pain. We have formulas like “I’m sorry for your loss” when speaking to non-intimates, but direct references to his/her pain are considered cruel (of course, it’s appropriate to express one’s own pain or sorrow). With close friends and family, we typically offer support (“How can I help?”; “If there’s anything you need…”; “Would you like me to…” etc.) and encouragement (“She’s in a better place now”; “[Name] will forever be close in our hearts”; etc.)


Imagery and Proverbs

Traditional imagery in the two cultures differs quite a bit. Although the same animals have the same natural characteristics—horses are speedy runners everywhere—Koreans and Americans also bring their separate cultural backgrounds to the mix. For example, Koreans don’t have a tradition of using horses to pull heavy loads such as plows, so they would misunderstand an American who calls a coworker a “horse.” Similarly, when thinking of bears, Americans focus on their size and strength, but Koreans think of them as slow, stupid, or uncultured. The only exception to these negative images of bears would be the story of 웅녀 (熊女, literally “Bear Woman”) who bore 단군, the mythical figure who is known to have founded 고조선, the very first kingdom of Korea, 4,349 years ago.

In some cases, modern people are unaware of how these cultural associations came about. For example, why do we associate Easter with eggs and rabbits? What do the two have in common? Well, originally, Easter was a pagan spring fertility rite, and both eggs and rabbits are associated with fertility. The Christians took it over and repurposed it, but the imagery persists. (I’m sorry, I don’t have any idea where the chocolate came from.)

Animal Associations

Here are a few good examples of the differences in animal associations. For a more complete list, please refer to the handout.

The dog: to Americans, dogs are “man’s best friend.” We regard them as family members, according them a place of honor and respect. In contrast, Koreans’ traditional view of dogs is as dirty scavengers, and they routinely use 개 to make curses and insults. In the past, they even used them for food, which to an American would be repulsive and criminal (친구를 먹으면 안되죠!).
The horse: In the English-speaking world, the horse has two associations: speed (a race horse), and strength (as a draft animal). So if I say a coworker is “a real horse,” I’m saying he pulls more than his share of the load. Koreans have only the speed association, imagining a mounted warrior. For plowing and similar tasks, they have traditionally used oxen.

The bear: Americans think of bears as big and strong—positive qualities—whereas Koreans imagine them as stupid, ignorant, and rather illiterate (이 미런곰탱이 or 곰단지 같으니)—negative qualities.

Similes and Metaphors

Every culture uses comparisons to the world around it to dramatize certain features. We speak of being “green with envy” or “high as a kite.” But as you’d expect, different cultures see the world differently. Russians speak of “making an elephant out of a fly,” whereas Americans “make a mountain out of a molehill.” But the Koreans speak of needles and sticks: 침소봉대하다 is from the Chinese 针小捧大 [zhēn xiǎo pěng dà], “needle-small-stick-big.” We persuade people using “a carrot and a stick,” as with a horse—but what if you don’t use horses in your culture?

Here are a few interesting cases from the longer list on the handout.

빈대 잡으러다 조가삼간 다 태운다 (“To burn one’s house to get rid of the bedbugs”): What’s a good American equivalent? Let’s begin with the sense of the metaphor: to sacrifice something valuable to solve a trivial problem.

The nearest I could think of was “to throw the baby out with the bath water.” “To cut off one’s nose to spite one’s face” is also close.

죽쑤서 개 주다 (“make porridge for the dog”): What’s a good American equivalent? Once again, let’s begin with the sense of the metaphor: put a lot of effort into something, but it’s all in vain (remember, Koreans traditionally didn’t respect dogs, so feeding them an elaborate meal was a waste).

I couldn’t find a good American or English equivalent for this one; we just have to reword it by saying someone’s effort was wasted, went down the drain, etc.

계란으로 바위 치기 (hitting a rock with an egg): What’s a good American equivalent? Once again, let’s begin with the sense of the metaphor: attempting the impossible.

Answer: “biting off more than you can chew.” Some have suggested “banging your head against a wall,” which is a more similar image. To me, the former is closer because it’s about a task that is far beyond one’s own ability, whereas the latter is about a task beyond anyone’s ability, a task that by its nature is impossible. Rocks can be broken with the right tools, but an egg is the wrong tool.

누워서 떡먹기 (eating rice cakes lying down): What’s a good American equivalent? Once again, let’s begin with the sense of the metaphor: it’s so easy, anybody could do it without trying.
American equivalents: “like falling off a log”; “easy as pie.”

High and Low Context

Koreans have lived together for 5,000 years, so they know each other well. When one Korean meets another, he or she can reasonably expect that the newcomer knows the same things, thinks the same way, and has the same cultural and linguistic background. In contrast, America is a nation of immigrants, a great “melting pot” in which people from all over the world meet. New York City is a perfect example—at various times in the past century, some 20 or 30% of its residents were born abroad.

This is important because the Korean speaking and writing styles are relatively laconic—a Korean will leave many of his thoughts unstated because he can rely on the listener/reader to fill in the blanks. A Korean listener/reader, in this system of implication and inference, can even feel insulted or patronized if the speaker/writer says things that should be obvious to anyone with half a brain. In contrast, an American must assume that his listener/reader has a different background, a different understanding of the world, so effective communication requires him to state all his thoughts explicitly. A Korean translating into English must fill in a lot of the blanks for the American reader—even more so than a translator working from a Western language such as German. This is the difference between the high-context Korean culture and the low-context American culture.

Rhetorical Organization

English sentences are typically “front-loaded”—if you want your listener/reader to notice something, you put it at the beginning, and tail off to the more obvious stuff at the end. In contrast, a Korean sentence typically starts with the background or context and builds to a climax at the end. A “faithful” translation is often rhetorically ineffective because it violates these norms.

A Korean might say something like this:
양치질을 한 후 자라.
After brushing your teeth, go to bed.

Which is the novel/important part? The speaker’s focus is on the tooth-brushing, so for an American reader that must go first, and moreover, it must be grammatically prominent (the main clause):
Brush your teeth (before going to bed).

But a novice Korean translator will often reorder the constituents to fit his/her imagination of what English grammar requires:
Go to bed after brushing your teeth.

To an American, seeing sleeping placed first in the main clause, this sounds like the tooth-brushing was already discussed and the sleeping was the new idea. Even the original version above, with tooth-brushing placed first, is confusing because sleeping is the main clause.
Order of Presentation

Two common ways of presenting information in Western culture are inductive and deductive reasoning. In inductive reasoning, the speaker/writer begins with a series of specific examples, organizes them into a pattern, and draws a conclusion from those examples. Deductive reasoning is more logically rigorous, but it also begins with evidence and uses it to support a conclusion.

However, for an American listener/reader (outside of academia), wading through reams of evidence is often unappealing. He wants the speaker/writer to cut to the chase (요점만 말하다). So persuasive writers will often begin by announcing their conclusion, and then follow with the evidence and reasoning. And in politics, they will often announce the conclusion and omit the evidence entirely.

Recommendations

To develop a flexible mind, one that is capable of saying the same thing in many different ways and choosing the most appropriate one to the situation, I strongly recommend exposing yourself as much as possible to the target language. I mean reading TL texts, watching TL movies and TV shows, listening to TL radio broadcasts, and so forth. You will find a lot of variety and diversity in these sources. People from different geographic regions, different socioeconomic levels, different demographic backgrounds, and in different work fields talk differently (a fisherman doesn’t sound like a law professor, even when discussing the same things), and even within those narrower categories there is variation. Early in my study of Korean, I quickly learned six words for “wife”: 아내, 마누라, 처, 집사람, 부인, and 와이프. As you know, there are still more than that. A professional translator working into Korean must know which one fits; s/he cannot simply choose one and stick to it as “the one right answer.” So please broaden your horizons, stretch into areas you have not read or heard before, and expand your palette to include all the colors of the rainbow. Just as an actor must be able to play different roles convincingly, a translator must be able to write different roles convincingly.

Another tool I’ve found valuable is paraphrasing (basic level) and rewriting (advanced level). Simply go through any text and write synonyms over as many words or phrases as you can. This will help you expand your active vocabulary.

As a more advanced practice exercise, take a text and rewrite it in a different tone of voice or from a different perspective. Suppose you have a personal injury legal case, and an attorney has described why his client is not responsible for the plaintiff’s injuries. Rewrite it as if you were the doctor. Or suppose you have a balanced news article on a company proposing a new development in your town. Rewrite it from the company’s perspective (to promote it), and then rewrite it again from the displaced residents’ perspective (to oppose it).

When people ask me why I don’t translate into Russian, a language I know well, I tell them it’s because even though I passively recognize thousands of Russian words, I don’t think of them all actively when I write in Russian. A Russian editor would replace a lot of my vocabulary, and on reading the revisions, I’d say, “Oh, sure, that’s better, I wish I’d thought of that.” Working into my native English, I have far more active options, and that’s what a professional translator needs.
The Vegetarian

Thank you for your attention. At this point I would like to turn things over to my co-presenter Elena Chang (장윤정), who has put together an interesting analysis of two translations of Han Kang’s The Vegetarian (채식주의자). One is by Janet Hong, and the other is the famous one by Deborah Smith, which recently won the Man Booker International Prize.

In my presentation today, I’ve urged you to take some liberties in your translations, not to adhere too rigidly to the original. But how much freedom is enough, and how much is too much? Where is the happy medium? When has the translator gone too far and when has she not gone far enough? For that answer, I give you Elena Chang. Elena?

Thank you, Paul.

The Vegetarian (채식주의자) is a three-part novel written by Han Kang, a Korean writer who has earned many literary accolades including the prestigious Yi Sang Literary Award. As a matter of fact, she received this award in 2005 for Mongolian Mark (original title: 몽고반점), which is the second part of The Vegetarian. It is also well known by now—at least in literary circles—that the entire story began its gestation with her short story The Fruit of My Woman (내여자의 열매), published in 1997. When The Vegetarian was first published in 2007, it was not well received by Korean readers, but rather viewed as “very extreme and bizarre” according to the novel’s Wikipedia page. Later, the book became quite hot when its English translation by British translator Deborah Smith won the 2016 Man Booker International Prize this year.

What really spiked the interest of many people, including myself, was the fact that the award was given to both the author and the translator, which is rather unprecedented. So, I decided to read both the original Korean text and Smith’s translation to see what all the fuss was about, so to speak. In my research process, I’ve also learned that there is another and earlier English translation of The Vegetarian, done by Korean Canadian translator Janet Hong. Her version was published in Azalea, a journal of Korean literature published by the University Hawaii Press, in 2010. Several paragraphs in the beginning of the book—it appears that Hong only translated the first part of the novel, which is also called The Vegetarian—are offered for free public viewing on Project Muse’s website, so I took advantage of it.

The handout I just distributed shows the first six paragraphs of The Vegetarian text in three columns; the first column in original Korean, the second in English translation by Janet Hong, and the third by Deborah Smith. As you can see, there are noticeable differences between Hong’s version and Smith’s. The very first sentence, “아내가 채식을 시작하기 전까지 나는 그녀가 특별한 사람이라고 생각한 적이 없었다.” is translated by Hong as “Until the day my wife turned vegetarian, I didn’t think there was anything special about her.” and by Smith as “Before my wife turned vegetarian, I’d always thought of her as completely unremarkable in every way.” Interestingly, the first part of the sentence is translated more literally in Smith’s version than in Hong’s version. However, the second part of the sentence really shows two different styles in translation; while Hong’s is more straightforward, Smith changed the text and rewrote it. Another thing that you probably have noticed is that neither of the first English clauses (“Until the day my wife turned vegetarian,” and by Smith as “Before my wife turned vegetarian,”) is not
a “strictly literal” translation of the corresponding Korean clause (“아내가 채식을 시작하기 전까지”); which could be roughly translated as “Until my wife started a vegetarian diet.”

However, the translation style difference between Hong’s version and Smith’s version soon shows up; let’s look at the third Korean sentence in the first paragraph:

“그저도 작지도 않은 키, 길지도 짧지도 않은 단발머리, 각질이 일어난 노르스름한 피부, 외꺼풀 눈에 약간 튀어나온 광대뼈, 개성있어 보이는 것을 두려워하는 듯한 무채색의 옷차림.”

Hong divided this single Korean sentence into four English sentences:

“She wasn’t short, but neither was she tall.

Her bob cut wasn’t short, but neither was it long.

She had chapped sallow skin, Asian eyes with no double eyelids, and protruding cheekbones.

She wore neutral colors, as if she were afraid of standing out.”

Smith, on the other hand, maintained the original single sentence structure:

“Middling height, bobbed hair neither long nor short, jaundiced, sickly-looking skin, somewhat prominent cheekbones, her timid, sallow aspect told me all I needed to know.”

At a glance, her translation looks more faithful because of that, but she made two huge changes:

Firstly, “외꺼풀 눈에” (which is “Asian eyes with no double eyelids” in Hong’s version) is completely gone.

Secondly, the last part of the original sentence, “개성있어 보이는 것을 두려워하는 듯한 무채색의 옷차림 (which is “She wore neutral colors, as if she were afraid of standing out.” in Hong’s version)” is turned into something completely different (see the underlined part above). What Smith substituted is roughly translated as “그녀의 겁먹은 듯하고 누르스름한 외모가 내가 알 필요 있는 모든 것을 말해주었다.” Well, I find this substitute to be too much liberty taken by the translator. Also, using “sallow” in the same sentence after already using “jaundiced” seems awkward to me. Perhaps, Smith being British, could those two words mean completely different things to her than in American English?

Now, let’s look at the very first sentence of the third paragraph; 언제나 나는 과분한 것들을 좋아하지 않는 편이었다. Hong translated this as “I’ve never liked feeling inferior.” while Smith has “I’ve always inclined toward the middle course in life.” To me, neither version is accurate or satisfying. The Korean word “과분하다” means “(something) to be beyond or above what one deserves.” In fact, this sentence makes me question what the author Han Kang wanted to say about the narrator character. With this sentence, I expect the guy would be a humble person, but subsequent content reveals him as a shrewd opportunist who seems to know who he really is and how he can make the best out of his given qualities. In that regard, Hong’s
translation (or rather a transcreation) appears to have captured the gist of the entire paragraph, whereas Smith’s translation seems off. What do you think?

Earlier, I mentioned that Smith being British, there might be some British English usage in her translation, unfamiliar to a North American readership. I have spotted such examples thanks to my co-presenter, Paul, here. First, there is “college” in the fourth paragraph. “학원” in “컴퓨터 그래픽 학원” is translated as “institute” by Hong and as “college” by Smith, respectively. Paul found out that in British English “college” could mean “any place for specialized education after the age of 16 where people study or train to get knowledge and/or skills”. Another example of a Britishism is “rows” versus “fights” at the end of the fifth paragraph in translating the Korean word “부부싸움”. A third one appears in the middle of the sixth paragraph regarding “~나는 조금 홍분했었다.” “Quite” generally means “fairly, but not very” in American English, but in BE it also could mean “slightly.” These differences are all quite—in the American English sense—interesting. I am just wondering, though, as an aside, why the American print was not re-edited for American readership to avoid these confusions…. Any input on this thought?

By the way, there is an unfortunate mistranslation as far as I am concerned in the fifth paragraph related to the above-mentioned “rows v. fights”.

Here’s the Korean sentence:

“그러나 하루에도 몇 번씩 직장 동료나 친구들의 휴대폰을 올려대는 아내들, 주기적으로 바가지를 굴어 요란한 부부싸움을 벌이곤 한다는 아내들이 피곤하게 느껴지던 터였으므로 나는 감사히 여겼다.”

Hong’s translation is:

“But I was just glad she wasn’t like my colleagues’ wives who called their husbands all day long or those wives who nagged and set off earsplitting fights.”

Smith’s translation is:

“On the other hand, if I’d had one of those wives whose phones ring on and off all day long with calls from friends or co-workers, or whose nagging periodically leads to screaming rows with their husbands, I would have been grateful when she finally wore herself out.”

Do you see any problem here, dear colleagues? In Smith’s translation, the calls wives receive are from their own friends or co-workers. However, the Korean text clearly says that wives call their husbands, several times a day, who are the narrator’s office mates or friends.

I’ve only compared the first six paragraphs in the two translations, but am quite sure that this prominent style difference will continue to be shown between the two translation versions. It is a matter of preference, I presume; one way is to be straightforward and more or less faithful to the original text as long as it reads naturally; the other way is to try to understand the gist of the author’s intention as much as possible and take the liberty of rewriting whenever the translator finds it suitable. Reportedly, Smith was in constant communication with Han Kang while translating the book and got the author’s blessing on her “localization.” Of course, this won’t be
an issue for a monolingual reader, but if you are a bilingual, interested in reading the same book in both original language and translation, the experience could be somewhat jarring. The best solution might be treating each version as two separate books. Any thoughts to share on my final comment?

Thank you!

**Conclusion**

Thank you very much to all our audience participants, without whom this would not have been possible.

In the time remaining, are there any more questions or comments?

Our prepared remarks are available from the ATA website, or you can email requests to us directly:
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PATENTS TRANSLATION: BEFRIENDING THE TOOLS OF A TRADE
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Abstract

Assuming that patents are the best resources for patents translation and that the large national and international Patent Offices such as the United States Patent and Trademark Office (USPTO), the European Patent Office (EPO) and the World Intellectual Property Office (WIPO) offer millions of resource documents, very specific navigational skills are going to be required to make optimal use of this wealth of information. In this article, a few selected tools will be presented in terms of their specific relevance to translators and patents translation. Together, such tools form an indispensable part of the patent translator’s navigational competence.

Introduction – Best resources for patent translation

Patents translation is different from any other sort of translation, at least in that the best sources of documentary and linguistic information are also patents. Experts, whether patent translators (Popp, 2009; Vitek, 2007), patent officers (Hamano, 2009) or patent agents (Popp, 2009) all concur and agree that patents are the best source of information on patents.

Clearly, such opinions consider the regulatory structure of patent applications which includes a brief review of the context of the invention (the Prior art), a statement of the problematic situation, and an explanation of how the invention remediates, all of which provides ideal documentary information. And one might add, not only for patents translation, but for all sorts of technical translations. For example, the chances that a technical instrument is patented are high, so that a Google documentary or linguistic search for information on a particular instrument, or instrument part, will sometimes retrieve the patents connected to it among the results.

Clearly too, the wise opinions of experts consider that the filing regulations for patents often subsume multiple versions of patents filed in different countries, thus providing translators with an abundance of models. For example, for the Etch–a-Sketch® invention (Ohio Art Company; Herrmann, 2015), there are four French versions of the patent respectively granted in France, Switzerland, Belgium and Luxemburg (i.e.; FR1242870, CH362328, BE590532, LU38623), three English versions respectively granted in Great Britain, the US and Canada (i.e.; GB915731, US3055113, CA601304), one German version (DE1099902) and one Dutch version (NL109951). All of which is considered not only useful model information, but crucial and rich linguistic sources of terminology for patents translation.

If nothing else also, one might add that no other source-document genre for translation can boast its very own multinational, international and national institutions, regulatory agencies and laws! Indeed, such mega institutions certainly exist for such other domains as medicine, public health, scientific research and the legal professions. However, none of these professional, international
or global institutions are specifically founded in connection to a source document, not even to medical protocols or consent forms which are also very regulatory documents --ditto for legal contracts, marriage licenses, and scientific articles. Thus, patents are considered unto patents translation the best possible resources.

**The need for navigational skills**

The purpose of this article will be to contribute to the wise opinion of experts, based on a combination of reflection and experience teaching patents translation at New York University – School of Professional Studies (NYU-SPS). The point driven will be the following: assuming patents are the best source of documentary and linguistic information in patents translation and there is a corpus of 90 million documents at the European Patent Office (EPO), 9 million patents at the United States Patents and Trademark Office (USPTO), 51 million documents at the World Intellectual Property Organisation (WIPO), and about 7 million documents at a national patent office such as France’s Institut National de la Propriété Industrielle (INPI), very specific navigational skills are going to have to be developed in order to manipulate such a huge amount of information and to make use of this unquestionably critical source of information. However, just the previous list of abbreviations and figures at the very large and well-known mega-patent institutions is usually enough to send everyone into information overload.

This much became very clear during the preparation and teaching of courses at NYU. Knowing the recommendations about the best source of information for patents translation, and simply telling this to course participants was not going to teach them how to get the information they needed, much less where to find it, or what to look for, and why. This much had to be included and structured as a learning experience.

**Navigation subsumes more than keyword searching!**

Indeed, even though all the participants in NYU courses are all highly skilled at searching for information on the Internet, they are also taking a course to become better navigators --more informed, more skilled, more knowledgeable and competent in their translation practices, and specifically patents translation.

Patent keyword searching on the Internet will not necessarily take you directly to a Patent Office database, much less to a few different Patent Offices, for accessing and retrieving patents and the related patent families, for retrieving original patent documents, for obtaining patent drawings and figures connected to a specific patent, for searching several patents selectively, or specific parts of a patent, such as the Claims, the Abstracts or the Titles, for retrieving specialized terminology and documentary information from a corpus of specific patents – at least not without concordance programming. Thus, you miss a lot of relevant information and possibilities when searching for patents uninformed.

Even when using a specialized patent search engine online, you will find that the results you retrieve are not necessarily the same from one specialized search engine to another, or directly
from the source databases at the international and national patent offices. For example, you might search for a particular patent number using a specialized patent search engine that it turns out can only access the database of “FullText patents since 1976” at the USPTO, whereas in fact your US patent was granted in the 1960s, and it also has a previous version filed in France (such as the Etch-a-Sketch patents, for example.)

Clearly then, to optimize search results and to follow up on expert recommendations, a learning effort will be invoked. An effort deployed to understand the information that is being sought, how it is organized and where it is located. And most importantly since the information is digital, an effort to learn all the tools enabling to access, consult and manipulate it.

**Beyond skills, the case for navigational competence**

To further strengthen the case for navigational competence from an educational perspective I seized the opportunity to use a metaphor of learning activity arising within the context of Activity Theory (Leontiev, 1979). This is a story that anyone who has ever learnt how to drive can remember and understand. Thus, recall when you first learned how to drive, how you sweated every single move: the blinker (yikes where is it?), the headlights, the clutch, the right pedal for gas or for braking (help!), changing lanes... or just changing routes because it made you too nervous... Every operation of driving the car was “attention demanding” fully conscious and pretty stressful... Then, with more driving, many of the operations slipped into the background and became automatic; and today, you probably do not even think about how to drive your car, except a brand new one or a rental. All the car driving operations have slipped into the background. They are subsumed by a higher and more overarching purpose of “driving somewhere”. (You are one with your car, in a more Zen perspective...!) Your tools have become transparent, and all you think about is how to get from point A to point B, while engaging in defensive driving and good courteous road behavior.

So, using this analogy for patents translation, the goal was to include teaching website navigation for patents translation, in such a way that at the end of the course the course participants would have developed the sort of competence that would get them all the information they could think of or needed for their translation. – *without* having to “sweat”, that is, to hunt and peck, haphazardly hopping from one link to another, via tutorials and instructions to do so. I wanted the participants in my class *fluent* in the alphabet soup of patent offices (EPO, USPTO, WIPO, INPI, etc.) and I wanted them to find patent information *without* having to figure out how to get the information they needed.

The rest of this article exemplifies some of what is actually structured as learning experience for the purposes of helping participants develop their instrumental competence, in connection to patents translation.
Befriending the tools of a trade

This article is titled: “Befriending a few tools of the trade…..” because the wealth of the tools that exist –free of charge-- at the patent offices and elsewhere on the Internet, was designed primarily for inventors, and/or lawyers and/or legislators. And we are translators. Thus, there is an extra small recursive step invoked in making the tools our own, which I will present as the relevancy of the tools for patents translation purposes.

This article is limited to presentation of just a few tools, at the EPO. This is very far from an exhaustive presentation. Many more tools are available at WIPO, at l’INPI, and at the USPTO, for example. But it will give you an idea of what is involved in developing navigational competence and how important this fluency is in keeping with the best and recommended practices of patent translation.

Exemplification

The EPO – European patent Office

1. Befriending parallel language sites

The EPO - European Patent Office is a multinational institution, regrouping 38 contracting states, that is, 10 more states than the 28 members of the European Union. French German and English are the three official languages of the EPO, one of which must be used to file an EP patent.

The EPO website with its thousands of pages providing cross-referenced and full-text European patent laws and regulations, patent news, patent statistics, and access to 90 million patent documents, operates in all three official languages, in parallel. The upper right corner of the screen enables visitors to choose one of the three EPO official languages at any location in the site [See for example the orange arrow on Figure 1].

Thus, beyond vastness of the EPO website content, and even though the functionality of the site working in parallel, in three different language universes was not specifically designed with translators in mind, it is the perfect tool to place on a translator’s preferred list of patent resource search tools, especially when working in one or more of the official EPO languages.

1.1 Translating Rule 71(3) EPO communication documents

Why? Well, let’s assume for example that you are translating Patent Office communication. In particular, you are translating Rule 71(3) EPO communication documents (i.e. in a formal Registered Letter from the EPO Examination Division). The Rule 71(3) EPO communication letter concerns the “Intention to grant” a patent application, contingent upon certain Amendments to the Description, pursuant to Rule 42(1) EPC, and to the Claims pursuant to Rule 43(1) EPC, and more particularly a section on the payment of fees, including the fees for granting the patent pursuant to Rule 71a(5) EPC, the designation fees (i.e.; fees to be paid by the
applicant and/or Inventor for the countries designated in the application, that is, those countries where the patent rights will be enforced), and the delivery and approval of the texts containing translation of the Claims of the patent, pursuant to Rule 71a(1) EPC.

The communication from the EPO Examination Division will be replete with references to the EPC rules and regulations (as cited above). And in certain paragraphs, the source text will actually include direct citation of the referenced EPC. So that, for example, your source text might include the following sections (verbatim) on the conditions for granting the particular patent in question, as follows:

“Note on payment of the renewal fee:
If a renewal fee becomes due before the next possible date for publication of the mention of the grant of the European patent, publication will be effected only after the renewal fee and any additional fee have been paid (Rule 71a(4) EPC).

Under Article 86(2) EPC, the obligation to pay renewal fees to the European Patent Office terminates with the payment of the renewal fee due in respect of the year in which the mention of the grant of the European patent is published.

Note on payment of the designation fee(s):
If the designation fee(s) become(s) due after the communication under Rule 71 (3) EPC, the mention of the grant of the European patent will not be published until these fees have been paid (Rule 71a(3) EPC).”

Considering the parallel construction of the EPO site with parallel language universes accessible via a toggle-menu click, you do not have to translate any of the above once you have located the source citations in the EPC. All you will have to do is to toggle into the language in which you are translating, in the upper right hand corner and…. presto pronto at the speed of synapses…. in the blink of a very conscious eye… the parallel EPO universe will open in your selected language, enabling you to just copy-paste the translation into your own - with or without a small amount of editing, appearing for this selection as strike-out (for deletions) and underlined (for additions) below:

4. Si une taxe annuelle vient à échéance après la notification visée à la règle 71, paragraphe 3, et avant la date la plus proche possible de publication de la mention de la délivrance du brevet européen, cette mention n'est publiée que lorsque la taxe annuelle est acquittée. Le demandeur en est informé [Règle 71 bis(4) CEB]

(2) Selon l’article 86, paragraphe 2 du CEB, aucune taxe annuelle n'est exigible après le paiement de celle qui doit être acquittée au titre de l'année au cours de


Note that this is editing of extracted EPC Code, rather than MT (machine-translation) post-editing. The three available versions of the EPC at the EPO website are equally official translations.

1.2 Translating the verb “comprise”

Let’s take another example. You have heard that the verb “comprise” is loaded with regulatory significance in patents and patents translation, and especially in claims where the subsumed list of terms (i.e.; that which is “comprised”) must be construed as open-ended, that is, as being included without excluding other terms. If you would like to see how the nuances of “comprise” vs. “consists of” plays out in French or German, then just toggle to your target language, or see below, the parallel extracts of the EPO Guidelines for Examination.

4.21 "Comprising" vs. "consisting"

While in everyday language the word "comprise" may have both the meaning "include", "contain" or "comprehend" and "consist of", in drafting patent claims legal certainty normally requires it to be interpreted by the broader meaning "include", "contain" or "comprehend". On the other hand, if a claim for a chemical compound refers to it as "consisting of components A, B and C" by their proportions expressed in percentages, the presence of any additional component is excluded and therefore the percentages should add up to 100% (see T 759/91 and T 711/90). http://www.epo.org/law-practice/legal-texts/html/guidelines/e/iv_4_21.htm

4.21 Sens des termes "comprendre" et "consister en"

Dans la langue courante, le terme "comprendre" peut signifier tout aussi bien "inclure", "contenir" ou "englober" d'une part que "constituer de" ou "consister en" d'autre part. Toutefois, dans la rédaction des revendications, il convient d'interpréter ce terme comme signifiant "inclure", "contenir" ou "englober", ceci afin de garantir la sécurité juridique. Par contre, si une revendication portant sur un composé chimique le caractérise comme "constitué des composants A, B et C" par l'indication des pourcentages respectifs de ces composants, la présence de tout composant supplémentaire.
est exclue, et la somme des pourcentages doit donc être de 100 %
(cf. T 759/91 et T 711/90).


Patent translation does not get any easier than immediate 1-click-toggle access to free official translations crafted by the European Union translators!

Well… actually it does! WIPO, the World Intellectual Property Organization is also a parallel universe site, operating in the six official languages of the United Nations. So, if your language combinations include Arabic, Chinese, English, French, Russian and Spanish, you are going to benefit from similar sorts of advantages toggling in an out of parallel universes for patent and patent related translations. Only this time, the free, official, 1-click toggle access translations will be crafted by the United Nations translators in many more possible combinations.

Finally, the 1-click toggle access to parallel language universes also extends to Patent titles and many of the Abstracts too. So, indeed, this sort of navigational fluency is going to save you lots of time and provide you with access to both key translated terminology and information that you will be able to use and recycle in your translation.

2. Befriending the new Refine search function (Fulltext) for Smart Searches in EspaceNet

In March 2016, the EPO released a new Fulltext (fltxt) search functionality in both the EspaceNet Smart Search and Advanced Search options. Prior to the addition of this Fulltext search function, any keyword search that you performed via the Smart search or Advanced Search options would retrieve information from the millions of Titles and Abstracts, only. The inclusion of a FullText search functionality thus extends a keyword search to databases containing full patent text (i.e; including descriptions and claims), and consequently vastly expands the results that you might obtain.

For example, let’s say that you are searching for “libération prolongée” (extended release composition) patents using the Smart Search function. When you perform your search in Smart Search, with the key words “libération prolongée”, the function returns just 2 results from the default EPO Worldwide database of Titles and Abstracts of published patent applications in more than 90+ countries (in English only). When you Refine your search, you will be able to select and search into the separate EPO Worldwide FR, DE or EN databases of published EP and WIPO applications, each of which are now Fulltext databases, and which will consequently increase your results to 4339 patents -- that is, quite a significant difference, and just an extra-click for searching through manifold more data.

If you would like to further Refine your search you can also search Claims or Description only in the selected Fulltext databases [Identifier Syntax: claims = “libération prolongée” (1543 results) or desc = “libération prolongée” (3011 results)]
You might also specify many other identifiers such as \( ab = \) (Abstract); \( ti = \) (title); \( pa = \) (applicant); \( in = \) (inventor); \( pn = \) (publication number), when you launch your EspaceNet Smart Fulltext searches. However, you might not really have to since the intelligence of the search engine is designed to make sense of your input.

For now, just remember to include quotes for two or more word searches so that the engine searches for the term as a unit, in the specified order, for example: “libération prolongée” vs libération (and) prolongée, anywhere in the text. And, assume that keyword searches are case-sensitive so that you are coaching the engine to search for Applicants (\( pa \)), Inventors (\( in \)) or Inventors and Applicants (\( ia \)) without having to specify the identifiers.

3. **Befriending the nine search functions of the Left EspaceNet Toolbar**

The nine functions of the Left EPO EspaceNet Toolbar are essential building blocks of navigational fluency enabling users to swiftly search and manipulate a single document, or the 90 million patent documents of the EPO, depending on what you are seeking.

Below, each of the nine, left toolbar, search options (Description, Claims, Mosaic etc..) are described. Specifically, each of the search options are further described as a function of their relevance to translators and translation tasks, since none were really designed with translators in mind.

**Bibliographic data:** EspaceNet patent search links open on the Bibliographic Data page. The bibliographic data page of a patent (at EspaceNet), contains hyperlinked (hardcopy) cover sheet information of the patent, plus much more that is linked. The hardcopy coversheet of a patent is the most documented aspect of a patent document (see for example, Brown & Michaels; Cetim.fr; Hamano, 2009; Popp, 2009). For this reason I will only show the relevance of the Bibliographic Data page hyperlinks and functions.

The Bibliographic Data page information includes hyperlinked priority publication links, and links to patent family documents. These links enable you to see immediately whether there is an English version of the patent you have retrieved. And since the patent numbers are hyperlinked you can click to the Bibliographic Data of the linked patent.

The Abstract also appears on the Bibliographic Data page with an EPO PatentTranslate function, allowing you to consult the MT (Machine Translation) for the Abstract, and also to see immediately whether the Abstract appears already in English or your target language.
**Description:** The Description link opens up the searchable description (only) section of your patent. Use it to get to the background and prior art information immediately and to check in what language the patent is available. Even though the title may be translated to English, and the patent retrieved using the English title, the description is not always in the same language. (This is, for example, the case for FR299780).

**Claims:** The Claims link opens up the searchable Claims (only) section of your patent. Use it to immediately get to the Claims-only section of your patent and the EspaceNet Claims Tree function, which will help you to determine the hierarchy of claims dependence (Fig.2). The yellow arrow points to a (+) plus sign next to the Claim number, which you can click for an expanded view of claim dependencies.

Use the Claims link also to check in what language the Claims are available. In some European patents, pursuant to the year 2000 London Agreement on the application of Article 65 of the EPC, the claims are available in two languages (English and the national language of the originating country). And again, even though the patent title may be translated to English, the claims are not always stored in the same language.
Mosaic: The Mosaic link opens up the figures and drawings (only) of your patent. You might use it to immediately get to the drawing section of your patent, to download or print it, for Adobe or pencil annotations, and to have a handy reference copy when searching for terminology. Keying and annotating patent figures that display many components (for example US2258841, the ballpoint “biro”) is sometimes the only way to maintain the kind of terminological consistency that is regulatory, not to mention how much this practice supports the understanding of an invention. You might also access the drawings separately to identify a patent, or for a quick source of documentation, without having to download and consult the entire patent.

Original document: This link provides you with a complete original version of the patent. Use it to find out whether there is an attached prior art search report for guidelines in your documentary research, and to print or save a copy of the document, for offline reading and archiving, or in case your client never gave you an original copy of the source text. Additionally, EP patents usually print abstracts in English and the national filing language (if it is different) on the cover sheet, so you may find valuable information on the original document for the rest of the translation.

Cited documents: This link gives you a list of all the cited patent documents in your patent translation job, appearing as a new hyperlinked list of EspaceNet search results. This search is very useful for finding additional related patents for use as model translations or sources of documentation, especially if one happens to be written in the target language. It also saves you the trouble of hunting and pecking for the citations within the original document.
**Citing documents:** This link gives you a list of all the citing patent documents of your patent (i.e.; other patents citing the particular patent you are working on), appearing as a new hyperlinked list of EspaceNet search results. This search is also very useful for finding additional related patents for use as models or documentary information, and again, especially when the citing patents are in the target language. The results of this search also appear as an invaluable and unique marvel of computer enabled searching. How else would you otherwise find this information within a corpus of 90 million patent documents..?!

**INPADOC (International Patent Documentation) Legal status:** This link gives you worldwide status information on the events occurring during the life cycle of a patent application, retrieved from 40 different national patent offices. Click it to find out, for example, in which countries the patent will be covered, one of which might be English-speaking. Or you might find a patent application examination report listed with specific requests for modification, one of which might be of particular linguistic relevance.

**INPADOC (International Patent Documentation) Patent family:** This link returns a new list of hyperlinked EspaceNet search results with the whole series of patents connected to your patent, a potentially valuable source of models, and documentary information to assist you with your translation. In many instances inventions come in several parts, each of which are patented, and one such part might contain for example a more extensive prior art section giving you more background and better understanding of the invention. This is the case for example for all the French CARMAT artificial heart patents.

So, indeed you might complete your patent translation with a source copy retrieved from the EPO or that was provided by your client. But it is unclear how well, or how effortlessly, you might proceed if you cannot manipulate your source text in connection to its best available sources of information, explanation and terminology. Nor is it clear that you will be able to maintain the sort of internal consistency that is regulatory without knowing how to manipulate all of it parts, separately and in combination. The Left EPO toolbar links will provide you with just the sort of tools you need.

**4. Treat! - Free fonts for circled INID code numbers**

If you have been using parentheses for the circled INID code numbers (International agreed upon numbers for the identification of bibliographic data) appearing on the cover sheets of patents because your Translation Memory (TM) program, and your basic set of fonts and symbols, do not cover all circled numbers – for example (73) for the circled INID code number 73, you will need a new font suitcase called CombiNumerals™ developed by Sean Cavanaugh at The FontSite http://www.fontsite.com/

This font suitcase may be downloaded for free at http://www.fontspace.com/category/numbers.circles
Once you have downloaded and installed the suitcase, it will appear as the **CombiNumerals™** font option in the dropdown font menu of all your Microsoft Office applications (Word, Excel etc..) (just like the **Calibri, Arial, Times Roman** font options) (See Figure 3).

**Figure 3: Microsoft Word ribbon displaying the CombiNumerals™ font option.**

To insert a single digit circled number (e.g.; ①, ③ or ⑤) click the regular QWERTY keys (Q=1, W=2, E= 3) after you have set the font to Combinumerals™ in the ribbon Font dropdown menu.

To insert double digit circled numbers, for example the number 73: type the number 7 using your keyboard numbers, and then shift 3 for ③, once you have set the font to Combinumerals™ in the ribbon Font dropdown menu.

For more information on using these free circled fonts, refer to the **CombiNumerals™: User Guide & Character Chart** pdf included in the zip suitcase that you downloaded.

**Conclusion**

Assuming there is no reason to question the wisdom of experts who recommend using patents as the best source of information and terminology for patents translation, it appears legitimate, considering the magnitude of the recommendation, to find the tools to follow suit and to develop the requisite navigational competence.

The EPO is just one patent office, albeit a very large one. And the tools presented here are but a few functions and extra clicks, albeit very useful and versatile ones, at the EPO. However, navigational competence is also an evolving process that subsumes the mastery of many more tools, such as the many additional functions and identifiers for searching databases at the EPO and elsewhere; the use of Patentscope and PEARL at WIPO if WO patents are to be explored; or the patent classification system gateways for the IPC – International Patent classification and CPC – Cooperative Patent Classification Systems if quite a few numbers appearing on Patent Applications are to be fully understood. The USPTO too, which is currently being refurbished may offer some new tools beyond the extraordinarily well organized patent archives, dating as far back as the foundation of the United States in 1790, all of which are typed and legible!

Finally, free commercial patent search engines such as Google Patents also offer search and retrieval options available nowhere else since the searches may be combined with prior art
searches extending to the whole of the www. And thus, separately from the fact that Google is powering all the machine translation at the major institutional websites for patents, worldwide.

But for now, that’s all!

References

Brown, M. F. & C. A. Michaels How do I read a patent – The front page [Link visited 08-17-2016]
http://www.bpmlegal.com/howtopat1.html


http://www.cetim.fr/Actualites/En-France/A-la-une/Propriete-industrielle-comment-dechiffrer-un-brevet

EPC - Rules relating to fees- parallel website construction example 1- English

EPC- Rules relating to fees- parallel website construction example 1– French

Guidelines for examination – 4.21 Comprise vs. Consist

Directives relatives à l’examen pratiqué – 4.21 Comprendre et consister en

EPO – Case Law of the Board of Appeals – Comprise, consist (essentially of), contains

EspaceNet Release Notes (March 2016) – V2

EspaceNet Assistant

http://www.wipo.int/edocs/mdocs/aspace/en/wipo_ip_cm_09/wipo_ip_cm_09_topic7_01.pdf

http://patentsonthesolesofyourshoes.blogspot.com/2015/05/oh-patents-etch-sketch.html


https://people.ucsc.edu/~gwells/Courses_Folder/documents/LeontievProblemofactivity.pdf

Ohio Art Company (Etch-a-Sketch®)
http://www.ohioart.com/

Abstract: Medical interpreting, like medicine itself, operates with two linguistic registers — the scientific language of physiology, pathology etc. and the language appropriate to communicating with patients and other laymen. So-called patient oriented texts (patient information leaflets, pre/post-op instructions and informed consent forms) further patient empowerment and are an important part of coordinated health care delivery. However texts in this category frequently present interpretation difficulties stemming from differences in the cultures of the original and target languages. Furthermore, style and formatting of documents interpreters must deal with may be quite different from what immigrant populations are used to in their native countries. Intrusion of particular features of language use (terminology, grammar, etc.) common in communication among medical professionals may impede appropriate understanding on the part of the medical interpreter, as well as the patient. Awareness of linguistic issues specific to patient-oriented texts is important for making interpretation-mediated communication between medical personnel and patients as effective as possible.

1. INTRODUCTION

Hatim and Mason once memorably wrote that “translating involves a conflict of interests, it is all a question of where one’s priorities lie” (Hatim and Mason 1990: 17). In this manner they have neatly delineated the problem of empowerment in medical interpreting: if the language is a valuable skill and a tool of influence at the same time, who is to wield it: a physician, an interpreter or a patient? Who will have the final say? Who will adopt and veto the diagnostic and therapeutic decisions?
A medical interpreter finds himself/herself both at the center and in the crosshairs of diagnostic communication as the proud bearer of a linguistic and communicative weapon. It is up to him/her whose side to take: the doctor’s or the patient’s, and who to empower of his/her own accord.

The conduit model of a mediated medical communication, according to which an interpreter is an invisible code-switcher, has long been discarded by the translation scholars, along with the notion of a translator’s neutrality. Nowadays, we tend to view the role a medical interpreter plays as that of the physician’s essential wingman, a co-constructor of the diagnostic meaning.

Medical interpreter’s visibility manifests itself in: 1) introducing or positioning him/herself as a party to the interpreted event, 2) setting communication rules (for example, turn-taking) and controlling the traffic of information, 3) paraphrasing or explaining terms or concepts, 4) sliding the message up and down the register scale, 5) filtering information, etc. (Angelelli 2004: 11).

If this interactional co-constructor aligns with the speaker of a dominant language (a physician), he/she is involved in gatekeeping, conveying but not providing access to information for the less dominant speakers. By contrast, attention to the patient’s linguistic and sociocultural needs turns into a practice of advocating for the less dominant speakers through cultural brokering, negotiating and teamwork with the patient’s family, interceding for them with the medical institution.

2. TRANSLATING MEDICAL DOCUMENTS: INTERLINGUISTIC AND INTERCULTURAL ASPECTS

Success of the doctor-patient communication is ensured by the shared terminological word-stock and common experience range to draw upon in times of need. However, recent studies show that the medical personnel overestimate the level of patients’ health literacy and, by extension, their ability to grasp the meaning of diagnostic concepts, read and interpret the sense of medical documents etc. (Castro et al. 2007). The patients, intimidated by the authoritative style of expert communication, and worse yet, by the abundance of medical jargon, are hesitant to ask for clarification.

Presumably, under the circumstances described, medical interpreters turn into the central players of the interpreting field. Nevertheless, their cultural background, divergent assumptions of health and illness, perceptions of a physician’s accepted behavior prevent them from taking full advantage of their linguistic superiority over the other sides of communicative triangle. To remedy these shortcomings of the mediated interaction, a whole range of translation procedures was invented and developed, starting from the traditional direct or ‘one-for-one’ variety (one translator produces one translation) to the committee (or
parallel rendering. Advance translations are produced at the drafting stage of the medical document creation, usually by means of a decentering technique which relies on paraphrasing ST (source text) formulations to relieve them of any cultural or dialectal clues.

By contrast, if the commissioners of a translated version would like to retain close ties with the intended recipients, they often hire untrained bilinguals to do the job (ad-hoc translation). The ad-hoc translation performed orally for a small group of recipients results in 'on-the-fly' versions of medical documents.

Medical interpreters with an advance level of transfer competence would use more sophisticated procedures to produce covert translations that read as original texts, while inexperienced/untrained interpreters readily adopt overt translations which signal in a variety of ways that they are inept replicas of the original.

A gifted medical interpreter knows how to reproduce the sense (message) of the original in the manner first described by St. Jerome: non verbum e verbo sed sensum de sensu (not word for word but sense for sense). This underlying principal of a faithful translation presupposes mastery of various equivalence types, understanding terminological variation in multifaceted cultural settings, associations of register with etymology of diagnostic words.

If anything, medical interpreting should be culturally competent, take into account the patient’s cultural background, cultural beliefs, and values, as well as incorporate this knowledge into health care delivery.

3. TRANSLATING MEDICAL DOCUMENTS: PATIENTS’ PERSPECTIVE

Modern patients are reported to be very knowledgeable and inquisitive; they are known to access the Internet more and more often to hone their knowledge of diagnostic issues, learn associated medical terminology etc (Fage-Butler, A. M. & Nisbeth Jensen, M. 2016). In some cases their biomedical knowledge of their own condition may even surpass that of health-care professionals.

This is a result of growing health literacy and promotion of a ‘patient-centered health care’ system empowering laymen as opposed to the experts. For people from different cultural backgrounds, health literacy is affected by their belief systems, communication styles, understanding and response to health information.

Patients that come from the divergent cultural backgrounds obtain the new facts and ideas by drawing on the health literacy skills of target culture representatives, extending the network of distributed health literacy. Medical interpreters are thus the proverbial ‘health literacy mediators’, - persons who make their literacy skills available to others, on a formal or informal basis, for them to accomplish specific purposes, for instance to get access to and
understand the meaning and function of various patient-oriented medical documents, among which PILs, pre/post-op instructions, and ICs are the most vivid tools of patient empowerment.

4. PILS IN TRANSLATION

PIL is a document enclosed in the outer sales package of a medicinal product and is written in the national language(s) of the country where it is sold. PIL goes under various names, among which ‘information leaflet’, ‘instruction leaflet’, ‘package insert’, ‘patient package insert’, or ‘consumer medicine information.’ The term ‘package insert’ is more widely accepted in the US, while ‘patient information leaflet’ – in Europe.

PILs are legally required to accompany medication in the EU and USA; they contain information about the composition of the medication, contraindications and possible side-effects, as well as instructions on how to take the medication correctly.

Their texts are summarized and simplified versions of core data sheets (CDSs) and summaries of product characteristics (SPCs). The problem is that both CDSs and SPCs are aimed at healthcare professionals while PILs are intended for consumers. This fact explains variation within terminology use, with package leaflets opting for lay terms and simpler grammar, direct forms of address, and conversational moves.

Moreover, patient information is generated initially in the native language of the country where the product is being developed. This leads to inconsistency in format, terminology, tone, and content due to the source (primary) language interference.

Many PILs are translated by pharmacists who may not have the necessary translational skills, and medical translators adopt the expert register, even when the English PIL (the ST) is lay-friendly.

Case study: PILs in translation
We’ve compared 54 original texts of PILs with their translations to single out a set of the following translation problems associated with this type of medical texts:

1) Medicines may take different trade names in their countries of distribution due to marketing reasons, using national nomenclatures instead of the WHO’s INN (International Non-Proprietary names) etc. That’s why it is necessary to include a list of all possible pharmaceutical nominations (e.g. Bi-Prestarium=Coveram, Imitrex=Imigran etc). However, not every PIL version in our corpus contains this list (41 out of 54 ST versions), presenting difficulties for the patients and for medical interpreters.
2) PILs contain references to the country-specific units of measurement, possibly absent in the target language. In this case, they are omitted or converted into other units (e.g. oz into g, inches into cm). However, in some cases units of measurement intended for the patient’s better understanding of dosing instructions (e.g. tablespoons) were replaced by those more abstract and difficult to apply (e.g. tablespoons → mg).

3) By far, the most common problem of translated PILs is the ratio of Greek/Latin (expert) terms and their native (lay) correspondences. In view of the patient-empowerment paradigm, PIL’s terminology is always explained in the original (e.g. stable coronary artery disease (a condition where the blood supply to the heart is reduced or blocked)). In Ukraine, the biomedical communication paradigm is still in place, and explanations written in a lay-friendly language are omitted, while Greek/Latin (expert) terms crop up in places where they are absent in the original.

4) We’ve also registered omissions due to obscure culture-specific reasons which we might explain only hypothetically:
   a) In the "Coveram" package leaflet, there was a reference to ‘ritonavir, indinavir, nelfinavir… so called protease inhibitors used to treat HIV’. In the translated text, we encounter the following formulation ‘CYP3A4 inhibitors (protease inhibitors)’ and not a word about HIV treatment. It might be attributed to the fact that in Ukraine, HIV-patients belong to a special group, requiring a personalized explanation of their health problems and methods of treatment.
   b) In the "Triplixam" package leaflet, there was a warning ‘if you are black people you may have higher incidence of angiodema (swelling of the face, lips, mouth, tongue or throat which may cause difficulty in swallowing or breathing)’ completely omitted in translation, presumably because its authors did not want to emphasize the racial origin of patients.

   However, both instances violate the ‘patient-empowerment’ principle and should be corrected.

5. PRE/POST-OP INSTRUCTIONS IN TRANSLATION

Pre/Post-op instructions belong to a wider group of medical documents called FSP (Fact Sheet for Patients). They are written by medical experts and distributed online. FSPs result from the overall democratization of medical knowledge, through which patients obtain access to quality information about their diseases and possible interventions.

Pre/Post-op instructions are formulated in such a way that patients and their relatives could understand the content of the text. They contain the most relevant information on symptoms, causes, treatment, diagnostic and surgical procedures.
Data come from highly-reliable, well-established medical information sources (clinical handbooks, revision articles, textbooks). They are presented in an easy-to-read, concise way. Pre/Post-op instructions usually follow a question-and-answer structure.

To produce a text of Pre/Post-op instructions, original studies are simplified, and reformulated intralingually (within the frameworks of one and the same language) to meet the needs of a lay audience. These expert-to-layman reformulations, called intralingual translations or rewordings, have thus become an important translatorial practice today.

In the translated versions of Pre/Post-op instructions there are numerous instances of determinologization procedures, such as explanation and definition of technical terms, specification of abstract concepts, comparison of complex notions to aspects of daily life, paraphrasing of specialized concepts, and addition of lay synonyms.

**Case study: Pre/Post-op instructions in translation**

We’ve compared 32 original texts of Pre/Post-op instructions with their translations to reveal the following associated problems of translation:

1) In some of the texts, we’ve come across medical terms transplanted from the English text into the Ukrainian one without translation. Most often they were pharmaceutical brand names, drug group names etc. However, as many patients are unable to read in foreign language, mispronunciation and misspelling of foreign words may lead to potential mistakes in drug use and compliance failure.

2) Medical interpreters’ over-reliance on the original text leads to abuse of loan-rendering practice (i.e. copying word structure of the original but substituting native words for primary-language ones). For example, in Ukrainian the word ‘tenderness’ does not have any associated medical meaning of ‘soreness, painful sensation’, only ‘gentleness and kindness’. However, when rendering the expression ‘tenderness of incision’ the interpreter used the latter equivalent creating an over-positive image of a smooth, fresh cut.

3) In most of the translated texts, we observe the interpreters’ fascination with the Greek/Latin words. Even if there is a native correspondence in the language, they opt for an ‘expert-sounding’ term, potentially unclear for the patients. For example, the English term ‘shortness of breath’ was rendered by the Ukrainian експіраторна задишка (back-translated: expiratory dyspnea).

4) We’ve come across a fairly significant number of translation blunders due to a lack of professionalism on the interpreter’s part and a lack of editing and control on the sponsor’s/health care institution’s part (e.g. water pills – розчинні таблетки (back-translated: soluble pills), hard or infrequent bowel movements - тверде або рідке випорожнення (back-translated: solid or liquid intestinal discharge) etc.). They might sound funny but have important consequences if disregarded.
6. INFORMED CONSENT (IC) FORMS IN TRANSLATION

The “informed consent” (IC) signifies two things at once: first, it is a specific mode of doctor-patient communication aimed at providing patients with information necessary to make their decision whether to agree to a particular trial or intervention or not.

On the other hand, it’s a document (form) that finalizes the results of doctor-patient communication, and certifies the patient’s decision (the form is signed by the parties to the communication). IC form is a legal document consisting of two parts: the information sheet and the certificate of consent.

The informed consent form as a text type is unique to the Western medicine and does not always have an equivalent in other languages and cultures, which is why translation of such documents is difficult yet very important. The document is usually rendered by means of two procedures of translation: sight translation which is a verbal translation or oral interpretation of a written text, often without any preparation time, and in case intervention is complicated or associated with some risks, the IC form should undergo back translation as an additional quality assurance step.

Faulty translations may entail the “failure of the participant to act as instructed, disparities in prescription and administration of the study preparation and reduced likelihood for appropriate follow-up and treatment of the underlying conditions and/or of side effects of the trial”, not to mention physical or emotional damage, misconduct of the experiment, time and money (Eldar, Wexler 2009).

To ensure the patient’s understanding, the doctor may also resort to a specific case of intralingual translation called the “teach-back” or “show me” technique in which patients are asked to repeat back, or “teach back” in their own words all the information they were given during the informed consent. Both have proved their effectiveness as a tool of improved recall and retention.

Case study: IC forms in translation

We’ve compared 27 original texts of Informed Consent forms with their target versions to find out the reasons behind faulty and inadequate translations:

1) Omissions were registered on the level of whole texts when sentences or paragraphs of important clinical nature were left out of translation. Presumably it was done because the interpreter considered them too complicated or technical for the patient to grasp their meaning.
2) Words and word combinations were omitted if found redundant (e.g. names of experimental drugs or treatments replaced with a more generalized term ‘treatment’) or implicitly understood form the context.

3) Translated IC forms are often written in a “high language” associated with expert communication. “High language” manifests itself in the interpreter’s preference for unexplained abbreviations, foreign words (often of the Greek/Latin origin), and nominal constructions instead of verbal ones.

4) In our sample of translated IC forms, inaccuracies were mainly due to cultural discrepancies. For instance, patients in Ukraine are not accustomed to the primacy of a ‘free choice’ principle governing the IC practice (in Ukraine, IC forms were introduced in 1992, and are still considered a mere formality). Belonging to a ‘culture of compliance’, Ukrainian patients do not question the doctor’s authority. That’s why interpreters are reluctant to accentuate the idea of ‘voluntary participation’, ‘decision to withdraw’ etc. in too many words.

5) On a lower and more accessible level, some cultural practices and phenomena are absent (or not so common) in Ukraine, and thus rendered inaccurately. For instance, contrasting agents are not mixed with milk shakes. And to make matters worse, the older population of patients does not have ready associations with what a ‘milk shake’ stands for.

6) Inconsistencies in the translated IC forms may result from heterogeneity of terminological nominations (e.g. ‘sudden infant death syndrome’ used throughout the text with ‘SIDS’ found in one of the sentences in the middle) which causes confusion, especially when the said nominations are used in close proximity to one another. The patients consider them two different notions rather than two names of one and the same notion.

Use of pronouns fitting several nouns often generates inconsistencies of a grammatical or syntactic nature.

On the macro-structural (textual) level, inconsistency occurs when an interpreter changes the order of paragraphs or clauses in a sentence.

7. CONCLUSION

Medical interpreter’s role is one of the primary and noblest roles in the health-care institution as by his/her cultural mediation, unflagging attention to the patients’ needs and constant moral and emotional support, he/she empowers the weaker side of the communicative triangle, redressing the balance and imbuing the medical consultation with a new meaning.
In many cases the medical interpreter acts as a co-constructor of meaning, assisting the physician, but also having latitude of professional autonomy. The following words by Sir Robert Hutchison, Scottish physician and pediatrician, remind us about the guiding principles of medicine: 'From inability to let well alone; from too much zeal for what is new, and contempt for what is old; from putting knowledge before wisdom, science before art, and cleverness before commonsense; from treating patients as cases; and from making the cure of the disease more grievous than its endurance, Good Lord deliver us!'

By treating patients as human beings, serving their needs and respecting their abilities and knowledge, the medical interpreter becomes empowered in turn.

8. REFERENCES

ABSTRACT
It goes without saying that corruption is everywhere. It has become the order of the day in current political and economic matters, spreading beyond borders. This session will give attendees an overview of the intricacies of complex corruption schemes. Key concepts from the main laws and international conventions related to anti-bribery and accounting provisions will be briefly analyzed. Key terms will be explained and translated into Spanish. Furthermore, major corruption cases currently in the news will be brought up to give examples of complex fraud schemes and selected passages will be translated to illustrate the terms explained.

1. INTRODUCTION
Corruption is everywhere. It is so much widespread that we can even say, paraphrasing the song, that “Corruption is in the air”. In recent years many corruption cases have been exposed, that are loaded with terms and concepts connected with complex economic crimes.

The purpose of this presentation is to give an overview of corruption schemes and explain some terms that refer to corruption issues. Then some key concepts from the main laws and international conventions related to anti-bribery and accounting provisions will be briefly analyzed and translated into Spanish and key terms will be explained and translated into Spanish. Last, some major corruption cases that have been in the spotlight will be explained to give examples of corruption crimes.

1.1 DEFINITION AND CLASSIFICATION OF CORRUPTION
Before plunging into corruption, it would be important to define it. Although it is a complex concept that has been broadly characterized by philosophers and scholars, its most broad definition is the “exercise of official powers without regard for the public interest” (i.e. “el ejercicio de prerrogativas independientemente del interés público”). Transparency International, the leading international non-governmental organization that fights against corruption defines it as “the abuse of entrusted power for personal gain” (i.e. “el mal uso del poder encomendado para obtener beneficios privados”). Although these two definitions imply the involvement of the public sector, corruption also exists in a purely private setting.

Corruption can be categorized in different ways. The most common types of corruption are **supply** versus **demand corruption**, **grand** versus **petty corruption** and **public** versus **private corruption**. There are other categories or ways of describing corruption, such as “**systemic**” versus “**individual**” or “**isolated,**” **corruption by “commission”** versus “by **omission,**” by the degree of coercion used to perform the illegal act, and the type of benefit provided.

“**Supply-side corruption**” is used to describe the act of offering an illicit payment or undue advantage, whereas “**demand-side corruption**” relates to the acceptance or solicitation of such a payment or advantage.
“Petty corruption” is sometimes called “bureaucratic corruption,” which implies involvement of public administration officials and non-elected officials. Some examples include bribes paid to enforcement officials, customs personnel, health service providers, and other government officials. **Facilitation payments**, also known as “grease” payments, fall under the category of petty corruption. These payments or bribes are commonly described as regular or routine administrative payments made to hasten a result or an outcome to which the payer is already entitled. In Spanish these payments would be called “pagos para agilizar gestiones” or even “pagos de facilitación o aceleración” or “pagos para aceitar trámites/los engranajes o la maquinaria o de engrase/para aceitar las manos”.

“**Grand corruption**” involves higher ranking government officials and elected officials who exploit opportunities that are presented through government work.

“**Systemic corruption**” exists where corruption is pervasive or entrenched in a society. In other words, it exists where it is routine in dealings between the government and private individuals or businesses.

There is “**isolated or individual corruption**” when corruption is rare or consists of a few individual acts.

Acts of corruption can be carried out by “**commission**,” but also by “**omission**”: i.e. a public official can either refrain to act or act in the performance of his or her duties, in exchange for a benefit from an individual or business. A concrete example of refraining to act might include a government official ignoring regulatory non-compliance that might ordinarily affect a business’ eligibility or continued approval for a permit. These factors as well as the degree of coercion applied by the public official and the type of benefit allotted (monetary, physical good, or creation of a social obligation) are of importance as they may affect decision-making and rationalization by corrupt actors. For instance, for some individuals, “looking the other way” may be more acceptable than being actively corrupt or actively seeking to conclude corrupt transactions.

To sum up, corruption can be categorized as follows:

<table>
<thead>
<tr>
<th><strong>CLASSIFICATION OF CORRUPTION</strong></th>
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<tbody>
<tr>
<td><strong>Supply-side corruption</strong> – Corrupción activa</td>
<td><strong>Demand-side corruption</strong> – Corrupción pasiva</td>
</tr>
<tr>
<td><strong>Grand corruption</strong> – Corrupción a gran escala</td>
<td><strong>Petty corruption</strong> – Corrupción a menor escala</td>
</tr>
<tr>
<td><strong>Public corruption</strong> – Corrupción en el sector público</td>
<td><strong>Private corruption</strong> – Corrupción en el sector privado</td>
</tr>
<tr>
<td><strong>Systemic corruption</strong> – Corrupción sistémica</td>
<td><strong>Isolated or individual corruption</strong> – Corrupción aislada o individual</td>
</tr>
<tr>
<td><strong>Corruption by commission</strong> – Corrupción por acto o acción</td>
<td><strong>Corruption by omission</strong> – Corrupción por omisión</td>
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</tbody>
</table>
1.2 TERMS TYPICALLY FOUND

When reporting corruption offenses or schemes in the news, journalists tend to keep it as simple as they can. As The Guardian News Writing Style Guide recommends: “Nobody is impressed by the use of a word they do not understand or would not use in everyday speech”. The same applies to the translation of press language. That is the reason why the general words that can be understood by readers are preferred, rather than the technical terms.

The words commonly found in these articles are:

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
<th>Translation</th>
</tr>
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<tbody>
<tr>
<td>Bribery</td>
<td>The crime of offering, giving, receiving or soliciting of something of value for the purpose of influencing the action of an official in the discharge of his or her public or legal duties.</td>
<td>Soborno, cohecho</td>
</tr>
<tr>
<td>Graft</td>
<td>A colloquial term referring to the unlawful acquisition of public money through questionable and improper transactions with public officials.</td>
<td>Soborno, cohecho</td>
</tr>
<tr>
<td>Bribe, kickback, payoff, grease money, backhander, cut</td>
<td>A return of a percentage of a sum of money already received, typically as a result of pressure, coercion or a secret agreement.</td>
<td>Soborno, dádiva</td>
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<td></td>
<td></td>
<td>Coima, retorno, vuelto, mordida</td>
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<tr>
<td>Slush funds</td>
<td>A sum of money used for illicit political purposes, as for buying influence.</td>
<td>Fondos ilicitos, fondos de reptiles</td>
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</table>
When reporting complex corruption schemes, words related to specific crimes may be found such as:

<table>
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<tr>
<th>Term</th>
<th>Definition</th>
<th>Translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Embezzlement</td>
<td>The fraudulent conversion of another’s property by a person who is in a position of trust.</td>
<td>Apropiación indebida, malversación</td>
</tr>
<tr>
<td>Malfeasance</td>
<td>Illegal or dishonest activity especially by a public official or a corporation.</td>
<td>Desempeño indebido</td>
</tr>
<tr>
<td>Misapplication or misappropriation of property</td>
<td>The intentional, illegal use of the property or funds of another person for one’s own use or other unauthorized purpose, particularly by a public official.</td>
<td>Uso indebido de los bienes (peculado)</td>
</tr>
<tr>
<td>Trading in influence or influence-peddling</td>
<td>The practice of using one’s influence with persons in authority to obtain favors or preferential treatment for another, usually in return for payment.</td>
<td>Tráfico de influencias</td>
</tr>
<tr>
<td>Illicit enrichment</td>
<td>Significant increase in the assets of a public official that he or she cannot reasonably explain in relation to his or her lawful income.</td>
<td>Enriquecimiento ilícito</td>
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</table>

In these articles, language may become very colorful and descriptive. Expressions or words referring to positions of power, trading in influence and concealment of illicit gains, such as the following, may be found:

*Once a powerbroker (personaje influyente), XX is claimed to have traded favors/ his office for riches (intercambiar o traficar favores/ a cambio de abultadas sumas de dinero)*

*A politician may face charges or allegations of ethical misconduct, honest-services fraud, extortion and money-laundering (faltas a la ética, fraude en la prestación de servicios, extorsión y lavado de dinero)*.

*Prosecutors allege that in return for padded contracts (contratos abultados) with XX, a gang of builders funneled cash to politicians (canalizar dinero)*

*You’ve got to know the ropes to pull the strings (mover los hilos)*.
2. MAIN LAWS AND INTERNATIONAL CONVENTIONS RELATED TO ANTI-BRIBERY PROVISIONS AND GUIDING PRINCIPLES OF ENFORCEMENT

2.1. Foreign Corruption Practices Act (1977)

The FCPA (Foreign Corruption Practices Act, i.e. Ley de Prácticas Corruptas en el Extranjero) was enacted in 1977 after revelations of widespread bribery of foreign officials by US companies. SEC reported that companies were using secret “slush funds” to make illegal campaign contributions in the United States and corrupt payments to foreign officials abroad and were falsifying their corporate financial records to conceal the payments. The act was enacted to halt corrupt practices, create a level playing field and restore public confidence in the integrity of the market.

The FCPA contains both anti-bribery and accounting provisions. The anti-bribery provisions prohibit US persons and businesses (domestic concerns), U.S. and foreign public companies listed on stock exchanges in the US or which are required to file periodic reports with the SEC (issuers) and certain foreign persons and businesses acting while in the territory of the United States (territorial jurisdiction) from making corrupt payments to foreign officials to obtain or retain business.

The accounting provisions require issuers to make and keep accurate books and records and to devise and maintain an adequate system of internal accounting controls. The accounting provisions also prohibit individuals and business from knowingly falsifying books and records or knowingly circumventing or failing to implement internal controls.

Violations of the FCPA can lead to civil and criminal penalties, sanctions and remedies, including fines, disgorgement of ill-gotten gains or profits and/or imprisonment (multas, devolución forzosa de ganancias mal habidas y/o pena de prisión).

2.2. The United Nations Convention against Corruption (2005)

The United Nations Convention against Corruption (UNCAC, Convención de las Naciones Unidas contra la Corrupción) is the most comprehensive anti-corruption convention. It covers a wide-range of corruption offences, including domestic and foreign bribery, embezzlement, trading in influence and money laundering. The UNCAC provisions oblige State Parties to take a number of public and private anti-corruption measures:

Prevention
Countries are obligated to take anti-corruption measures in public and private sectors. These can include establishing anti-corruption bodies and enhancing transparency in political financing. States must take measures to ensure public services are subject to safeguards that promote transparency, efficiency and merit-based recruitment. Public servants should be subject to codes of conduct, financial disclosures and disciplinary measures.

Criminalization
Countries are required to establish a wide range of criminal offences, including basic forms of corruption (like bribery and embezzlement), trading in influence and the concealment and laundering of the proceeds of corruption. The UNCAC offences deal with public and private-sector corruption.

International Cooperation
Countries agree to cooperate with one another in every aspect of the fight against corruption and are required to give mutual legal assistance in gathering information for use in court. Countries are also required to undertake measures to support the tracing, freezing, seizure and confiscation of corrupt assets (rastreo/localización, congelamiento, embargo y confisco/confiscación/incautación de activos provenientes de delitos de corrupción).

Asset Recovery
Asset recovery is a fundamental principle of the UNCAC that requires the needs of countries seeking illicit assets to be reconciled with the legal safeguards of the countries whose assistance is sought. Provisions specify how cooperation and assistance will be rendered and aim to return assets to the country of origin. Effective asset-recovery provisions send the message that there is no place to hide illicit assets.

2.3 OECD Anti-Bribery Convention (1997)

The OECD Convention on Combating Bribery of Foreign Public Officials in International Business Transactions (OECD Convention, Convención para Combatir el Cohecho de Funcionarios Públicos Extranjeros de la Organización para la Cooperación y el Desarrollo Económicos) addresses bribery of foreign public officials. Its aim is to create a level playing field between OECD countries by subjecting countries to the same criminal standards. The OECD Convention establishes a number of anti-corruption measures, including the following:

Criminalization: Prohibits the bribery of foreign officials.

Enforcement: Includes an obligation to prosecute companies suspected of bribing public officials abroad.

Whistleblowing: Recommends the establishment of effective whistleblowing mechanisms. (mecanismos para realizar denuncias). A whistleblower is an employee, former employee, or organization member who reports workplace misconduct.

Monitoring: The OECD carries out rigorous peer-review examinations monitoring the level of implementation of the OECD Convention and OECD recommendations.

2.4 Inter-American Convention Against Corruption (1996)

The Inter-American Convention against Corruption (IACAC, Convención Interamericana contra la Corrupción) aims to promote and strengthen the mechanisms to combat corruption, and to promote, facilitate and regulate cooperation to ensure the effectiveness of the measures to
combat corruption in the performance of public functions. The IACAC establishes a number of anti-corruption measures, including the following:

Criminalization: Establishes the criminalization of corrupt acts, including bribery and illicit enrichment (enriquecimiento ilícito).

Cooperation: Includes provisions to strengthen cooperation between its States Parties for mutual legal assistance, technical cooperation, extradition and identification.

Asset Recovery: Includes provisions to strengthen cooperation between its States Parties for tracing, freezing, seizing and forfeiting the proceeds of acts of corruption (localización, congelamiento, embargo y confiscación de los fondos provenientes de delitos de corrupción).

3. POLITICAL CORRUPTION

Political corruption means the abuse of political power by the government leaders to extract and accumulate for private enrichment, and to use politically corrupt means to maintain their hold on power.

Political corruption can be of two forms. The first one is which includes both accumulation and extraction and where government officials use and abuse their hold on power to extract from the private sector, from government revenues, and from the economy at large. Some of the examples of the above mentioned form of corruption are extraction (expolio), embezzlement (malversación), rent-seeking (búsqueda de rentas), plunder (saqueo) and even kleptocracy (cleptocracia) ("rule by thieves").

Rent-seeking is the use of the resources of a company, an organization or an individual to obtain economic gain from others without reciprocating any benefits to society through wealth creation. For example of rent-seeking is when a company lobbies the government for loan subsidies, grants or tariff protection. These activities do not create any benefit for society.

The second form of political corruption is one in which extracted resources (and public money) are used for power preservation and power extension purposes. This usually takes the form of favouritism and patronage politics.

Patronage (clientelismo), also called “spoil system” occurs when political supporters are rewarded for their support (e.g., by being appointed to public office or receiving contracts, subsidies or other benefits), regardless of merits.

Cronyism (nepotismo, favoritismo) is a form of favoritism shown to close friends. A typical situation of cronyism would be the political appointment to office of a friend without regard to the person’s qualifications.

Political corruption is not just about election rigging (manipular los resultados electorales). Any corporation or employee of a corporation who, in their dealings with a public official and seeking
benefits for himself or any third party, engages in behavior which promotes the violation of law or abuse of power on the part of the government official.

**Bid rigging** (*manipulación de las licitaciones*) is a form of collusion in which bidders on a contract decide between themselves which bidder should be successful in the tender, and then draft their bids accordingly. Forms of bid rigging include bid rotation, complementary bidding and cover pricing. Bid rigging can constitute a cartel or antitrust offense.

**Debarment** or **blacklisting** (*exclusión del registro de proveedores*) are procedures by which companies or individuals are excluded from public contracts. This process is an administrative sanction used by governments or agencies to publicly punish companies, organizations, countries or individuals found guilty of unethical or unlawful behavior.

### 4. CORPORATE CORRUPTION

When a large corporation decides to do business overseas, it must usually secure a number of licenses, permits, registrations, or other government approvals. Certain types of business may be even be impossible or illegal unless the corporation is first able to obtain a change or adjustment to the nation’s laws or regulations. Since the power to authorize the foreign corporation’s activities is vested in the hands of local politicians and officials, and since corporations have access to large financial resources, it should not be surprising that some corporate executives resort to financial incentives to influence foreign officials.

White-collar crimes are especially difficult to prosecute because the perpetrators use sophisticated means to conceal their activities through a series of complex transactions. Whistleblowers are particularly helpful, because they report internal wrongdoing that may be invisible outside the company.

Companies with ineffective internal controls often face risks of embezzlement and self-dealing by employees (*autocontratación*), commercial bribery, export control problems, and violations of other laws.

It is worth mentioning in this context the **red flags** (*señales de advertencia*) which are warning signs of potential business risks. They should be periodically researched, analyzed, reviewed and addressed as part of your company’s compliance activities.

### 4.1 A leading corporate corruption case: FIFA

The defendants charged in the indictment include high-ranking officials of the *Fédération Internationale de Football Association* (FIFA), the organization responsible for the regulation and promotion of soccer worldwide, as well as leading officials of other soccer governing bodies that operate under the FIFA umbrella. The current and former presidents of CONCACAF, the continental confederation under FIFA headquartered in the United States – are among the soccer officials charged with **racketeering** (*crimen organizado*) and bribery offenses. The defendants also include U.S. and South American sports marketing executives who are alleged to have
systematically paid and agreed to pay well over $150 million in bribes and kickbacks to obtain lucrative media and marketing rights to international soccer tournaments. The indictment alleges that, between 1991 and the present, the defendants and their fellow conspirators corrupted the enterprise by engaging in various criminal activities, including fraud, bribery and money laundering. Two generations of soccer officials abused their positions of trust for personal gain, frequently through an alliance with unscrupulous sports marketing executives who shut out competitors and kept highly lucrative contracts for themselves through the systematic payment of bribes and kickbacks. The soccer officials are charged with conspiring to solicit and receive well over $150 million in bribes and kickbacks in exchange for their official support of the sports marketing executives who agreed to make the unlawful payments.

Most of the schemes alleged in the indictment relate to the solicitation and receipt of bribes and kickbacks by soccer officials from sports marketing executives in connection with the commercialization of the media and marketing rights associated with various soccer matches and tournaments.

FINAL REMARKS

Translating corruption terms requires understanding complex schemes devised to obtain and conceal illicit gains. Corruption-related schemes mostly involve white-collar crimes which also use sophisticated means to conceal their activities through a series of complex transactions. The language of corruption differs all over the world, but there are also some marked similarities among cultures. When corruption offenses are reported in the press, not only technical words but also very informal and colorful words will be found.

REFERENCES

3. Guía de lenguaje claro sobre lucha contra la corrupción http://transparencia.org.es/wp-content/uploads/2014/10/Gu%C3%ADa-de-lenguaje-claro-sobre-lucha-contra-la-corrupci%C3%B3n.pdf
7. Buenas prácticas en América Latina y la Unión Europea: Programas y políticas públicas para la prevención de la corrupción en el ámbito privado ecodes.org/component/option,com_phocadownload/Itemid,340/.../view,category/
8. What investors can do to crack down on corruption
   http://www.worldfinance.com/strategy/what-investors-can-do-to-crack-down-on-corruption
9. Fuller Picture of FIFA Corruption Case Begins to Emerge
10. Insider’s Account of How Graft Fed Brazil’s Political Crisis
    http://www.worldfinance.com/strategy/what-investors-can-do-to-crack-down-on-corruption
CRISPR GENE EDITING: FROM TAILORED GENE THERAPY TO SPECIES ENGINEERING

Tapani Ronni, PhD

Introduction

This brief review of a new method called CRISPR gene editing is aimed at translators in medical and scientific fields. Gene therapy is an experimental approach that uses genes to treat or prevent disease. Despite its promise, the gene therapy field has multiple technical problems to overcome. A major stumbling block has been that tailored, accurate editing of DNA has not been possible in mammals, due to the complexity and size of the mammalian genome.

Basic research on bacterial defense mechanisms against viruses (bacteriophages) has led to the discovery of the CRISPR-Cas system. CRISPR-Cas is now being used in the laboratory and seems to provide a novel, accurate, and fairly easy method to add, remove, or alter DNA segments or individual nucleotide bases in the precise target gene of interest.

In addition to basic research, possible applications include precise gene editing to correct genetic defects in human chromosomes (gene therapy). Other possibilities include creating tailored T cells (CAR T cells) for anticancer treatments, and species engineering. Species engineering is a hypothetical method for altering genomes of plant, insect, or mammalian populations in the wild, using a so-called “gene drive” that would bypass Mendelian inheritance laws and give the novel artificial gene construct a significant selection advantage in a few generations. Lastly, CRISPR could be used to alter unborn children or even human sperm and eggs (germ line gene therapy).

This talk will explore philosophical, safety, and ethical issues related to genome editing, species engineering, and germ line gene therapy, concepts hotly debated in the field. Do we have the right to improve future generations and alter the genetic makeup of entire species?

1. Human genome and genetic diseases

Virtually all targets of human gene therapy are within the human genome, which is the storehouse of the information used to build and run our bodies. The human genome consists of a chemical called deoxyribonucleic acid (DNA), which contains over 3 billion subcomponents called nucleotide base pairs. Nucleotide base pairs form the basic units of a chemical code that makes up individual genes, like the letters that form a word. Each gene is a blueprint for a protein, and any given protein can have multiple “versions” – gene variants that can be inherited, and which form the basis for individual variation and the evolution of humankind. The genes of the human genome are coiled for compact storage on chromosomes, and are divided among 22 chromosome pairs (autosomal chromosomes) and 2 sex chromosomes (two X chromosomes in females, one X and one Y chromosome in males). Each autosomal chromosome pair comprises a set of genes in duplicate, so that a defective gene can often be compensated for by its functional counterpart. However, particular changes to a gene -- mutations -- can also cause genetic disorders if they disrupt the function or regulation of an essential gene.
The human genome is complex and varies among individuals, though the placement of specific genes in relation to each other within each chromosome is typically maintained. Multiple human genomes have now been fully sequenced, and a recent study comparing 1092 individual genomes was published in 2012. This large study (“The 1000 Genomes Project”) revealed that there are considerable differences among different genomes. The investigators found 1.4 million small insertions and deletions and 14,000 large deletions. (Insertion means that the chromosome contains at least one extra nucleotide, deletion means that at least one nucleotide is missing.) In addition, 38 million single nucleotide polymorphisms (SNPs) were found. An SNP represents a difference of one base in the genetic sequence. The 1000 Genomes Project thus revealed that there are large personal variations between people at the genetic level.

At least 3000 to 4000 genes are known to be associated with phenotypic traits or genetic disorders. These mutations range in size from one nucleotide change to large deletions or insertions in a chromosome, or even abnormal amounts of chromosomes (for example, three copies of chromosome 21 in Down Syndrome). The current state of the medical art is to give palliative treatment for a genetic disorder, or in some cases, patients can be given purified protein that they are missing or are unable to produce correctly (this is called protein therapy). For example, patients with a rare genetic disorder called Gaucher disease have deficiency in an enzyme called glucocerebrosidase. This defect causes problems in multiple organs. One available treatment is called enzyme replacement therapy, where the patient gets an infusion of recombinant glucocerebrosidase in regular intervals for the rest of his or her life. The results are often good, with alleviation of symptoms and improvement of quality of life, but these kinds of treatments can be very expensive. Commercially available glucocerebrosidase, Cerezyme, from Genzyme Therapeutics can cost up to 200,000 dollars per patient per year.

Gaucher disease is an example of autosomal recessive disease - both copies of a given gene (in this case, the glucocerebrosidase gene) have to be faulty in order for the disease to manifest itself. Some diseases are autosomal dominant - if one copy (from either parent) is defective, the symptoms of the disease will show up. An example of this is Huntington’s disease, a debilitating and fatal hereditary disorder in which nerve cells degenerate in certain brain areas.

Even cancer can be considered to be a genetic disease. Accumulating genetic defects in a given cell eventually cause uncontrolled division and proliferation, leading to exponential growth of cancer cells. However, cancer is not a hereditary disease - it is not inherited in families in the sense that children would be born with cancer. In some cancers there is a hereditary component - family members can have increased susceptibility to develop cancer.

2. The concept of gene therapy

Gene therapy aims to correct the underlying genetic defect in patients suffering from inherited genetic diseases and other genetic disorders, including cancer.

How can one correct a genetic defect in a cell? Genetic engineering of certain bacteria is easy. Bacteria are prokaryotic organisms, meaning that since their DNA isn’t sequestered in a nucleus, they can readily take in foreign DNA. The process of introducing DNA into bacteria is called transformation. This is not a trivial task in human cells, which are eukaryotic cells, meaning that
their genomic DNA is located in the nucleus, and mitochondria, the power plants of the cell, have their own separate DNA. With the exception of mitochondrial diseases, all genetic diseases originate in the nuclear DNA. Thus, if one wants to correct a genetic defect, one has to find a way to move desired genetic material (usually DNA) into the target cell. The process of introducing DNA into mammalian cells is called transduction. Efficient gene therapy requires an efficient transduction method, preferably one capable of delivering DNA to 1% or more of the cells of interest.

Though the concept of gene therapy is not new, developing practical applications has been very difficult. Multigenic diseases - diseases where multiple genes are faulty - are currently too complex to tackle. Monogenic diseases, where the problem lies in only one gene, are more amenable targets but still very challenging.

There are several ways to introduce DNA into mammalian cells. One is to encapsulate DNA in lipid droplets called liposomes. Liposomes can fuse with the cell membrane (the layer that separates the cell from its environment), and thus the DNA payload is released into target cell. Also, different nanoparticles can carry DNA into the target cell. However, the most attractive gene delivery method is to use tailored viruses. Viruses have developed very efficient ways of infecting their target cells and inserting their own DNA into host cells. Viral genomes can be modified so that the DNA of interest is carried into the target cells, but the virus is unable to propagate itself and create progeny viruses. This is an important safety feature.

The simplest way to attempt gene therapy is to introduce a healthy version of the diseased gene into the cell so that a healthy protein can be produced, and the cell can function normally. This is called gene augmentation. Another, more challenging approach is gene correction/gene editing, where the genetic defect itself is fixed in the nucleus.

The problem with augmentation is that it may be possible to generate enough protein from the introduced gene that the cell can function normally, but the underlying genetic defect is still there. If, over time, protein production stops, the cell will revert back to a diseased state. Also, if the diseased gene is a dominant negative one, the presence of a healthy copy of this gene is not enough to create a desired change in the phenotype.

3. A brief overview of CRISPR-Cas system

While virus vectors have been the basis of years of gene therapy efforts, the CRISPR-Cas method arose from studies of the ways that bacteria defend themselves against invading organisms. Bacteria have their own viruses, called bacteriophages. A bacteriophage can invade a bacterial cell and replicate itself, leading to the cell bursting open (a lytic infection) or to a long dormant phase where the bacteriophage genome is inserted into the bacterial chromosome, where it resides to activate itself later (a latent infection). Bacteria have evolved defense mechanisms against bacteriophages, not all of which are known. Typically these systems involve the use of one or more enzymes to identify and cut up viral DNA in order to inactivate it. The first discovered system uses restriction enzymes that recognize specific non-host DNA sequences and cut them. Many restriction enzymes have been cloned, and they are now widely used in genetic engineering to create artificial genetic constructs. CRISP-R Cas9 (clustered regularly interspaced
short palindromic repeats-CRISPR associated 9) is the most accurate and precise of these DNA-cleaving enzyme systems. The CRISPR-R Cas9 system identifies the target DNA using two strands of ribonucleic acid (RNA) - CRISPR RNA (crRNA) strand and trans-activating crRNA (tracrRNA) (Figure 1). RNA is complementary to DNA, and RNA will bind to the DNA that it matches. The enzyme Cas9 is an endonuclease – it makes cuts inside a DNA strand. Once the targeting RNA duplex finds the corresponding DNA sequence, Cas9 cleaves the target DNA, creating a blunt-ended double strand break. The system has been engineered for lab use so that only one RNA strand is needed, called single guide RNA (sgRNA). The system has been further modified to allow specific sequences to be removed or replaced with different sequences, provided that a suitable template DNA is present. In that case, Cas9 can facilitate targeted integrations of a desired sequence into the genome.

FIGURE 1. A schematic view of an engineered CAS nuclease – sgRNA complex binding to target DNA. The source for the DNA strand: https://upload.wikimedia.org/wikipedia/commons/0/06/DNA_strands.png

The CRISPR-Cas system is more efficient than older gene editing methods, such as zinc nucleases. It also makes it possible to manipulate previously intractable organisms, both invertebrates and vertebrates. However, due to space constraints, this review will mostly focus on mammals, including humans.

The beauty of the CRISPR-Cas system is that it is easy to manipulate (easy to program for various purposes) and easy to use. For example, making so called transgenic mice (where the mouse genome is altered, for example by deleting or adding DNA into a gene of interest) used to take years with older methods. With this system, transgenic mice can be created in months, which speeds up basic biomedical research tremendously.
4. CRISPR-Cas as a tool for basic research

The CRISPR-Cas system has generated tremendous excitement among molecular biologists and other life scientists. Making targeted changes in the genome of the model organism interest (for example, laboratory mouse) used to be slow and laborious, limiting the experiments you could do. Now even a graduate student can make tailored changes – even one base pair at a time – in the DNA of a mouse, or for example a human cancer cell. By using the tools of synthetic biology, it is possible to even make whole sets of changes to answer some intriguing science questions. For example: Which genes are required for a cancer cell to become resistant to chemotherapy agents? Which regulatory elements are needed for activation of a crucial cytokine (a protein) during the immune response against a virus?

In addition to altering the genome, this system can be tailored to permanently block activation sites in the gene, thus silencing it either permanently or in a reversible manner. Thus this system can be used as a transcriptional repressor – that is, it can be used to prevent a protein from being made. It is also possible to activate previously silent genes and study what effect this may have in the cell. Thus this system can be used as a transcriptional activator.

Since multiple artificial CRISPR-Cas systems can be simultaneously introduced into one cell, more complex experiments are possible. Multiple genes can be simultaneously be upregulated or downregulated in the same pathway and the effects studied in detail, even using genome wide arrays that give a very comprehensive view of the status of the cell. New tools in systems biology make it possible to do genome-wide screenings of various cell types to study fundamental biological questions on gene regulation and cell growth and differentiation. While this area cannot be addressed in more detail here, suffice it to say that CRISPR-Cas system has yielded new and exciting tools in this area of inquiry as well.

5. CRISPR-Cas as a tool for gene therapy

a. What is Gene Therapy?

Genetic engineering techniques were developed first with viruses and Escherichia coli bacterium. With the discovery of restriction enzymes in the 70’s it became possible to cut and paste genetic material (DNA) at will. Simultaneously, viruses were studied and their use as carriers of foreign DNA was envisioned. As early as 1972, it was proposed that human genetic disease could be treated with gene therapy.

The first approved gene therapy attempt in humans was in 1990 when two children suffering from severe combined immunodeficiency (SCID) due to a defective adenosine deaminase (ADA) gene were given a corrected ADA gene by using a viral vector (a retrovirus). The results were encouraging, as the patients’ immune systems were normalized for several years.

Despite some promising results, gene therapy is still in the experimental stage due to inherent risks such as inadvertently changing other areas in the genome than was intended. It is currently only being tested for the treatment of diseases that have no other cures.
b. Virus vectors in gene therapy

The aim of gene therapy is to deliver the desired genetic material (DNA) into the recipient cell. While chemical methods, such as liposomes and nanospheres, are being studied, viruses have shown to be most versatile gene transfer vehicles. Viruses in their natural state have efficient ways to bind to their target cells and enter them. It is now possible to modify viruses using genetic engineering. Viral genomes can be rearranged so that some genetic material is removed so that the virus cannot propagate itself in the host cell. This is essential for safety, so that the viral vector does not cause unintended infectious disease in the patient. Since there is now space in the virus genome, a desired piece of DNA can be spliced in. This DNA usually consists of the desired gene (the correct version of defective gene that the patient has) and required regulatory elements.

c. Gene augmentation vs. gene editing

Traditional gene therapy approaches have used gene augmentation, where an entire healthy gene is introduced into the cells of the patient or laboratory animal, such as mouse, to take over the function(s) of the defective gene. While this approach has shown some promise, ideally one would like to correct the underlying defect in the chromosome for good (gene editing). This is still a dream in the clinic, but the CRISPR-Cas system is a promising approach towards this direction. If the target gene could be edited directly, the corrected version would be under the control of its own natural regulatory elements and not too much or too little of the corrected protein would be produced. Therefore gene editing should be a safer and more efficacious approach than gene augmentation.

d. Somatic vs. germ line gene therapy

There are two possible target cell populations in gene therapy: germ cells and somatic cells. Germ cells are female eggs and male sperm. They are haploid, meaning that in humans they only contain one set of 23 chromosomes. In principle, germ cells could be manipulated by gene therapy. This could be appealing in some cases where the disease is caused by a single defect in a single gene - fix the problem at the egg or sperm stage and you should get a baby that has a corrected gene. The next generations would be also cured. However, this approach is ethically questionable and not allowed by current regulations.

Thus all gene therapy attempts so far have been targeted to somatic cells. Somatic cells mean all the cells that are not germ cells. They are diploid, so in humans, they contain 23 pairs of chromosomes, with total of 46. Somatic cells are nonreproductive, meaning that any changes to their genome will not be inherited by the next generation. One concern in gene therapy is to avoid accidentally infecting primordial germ cells (located in female ovaries and male testes) with a viral vector.

e. Ex vivo vs. in vivo gene therapy

Gene therapy of somatic cells can be divided into ex vivo and in vivo gene delivery. Ex vivo is historically older and easier to do. It is especially suitable for manipulating blood cells as they can be removed from the patient by taking a blood sample and separating the blood cells into groups based on their surface properties (flow cytometry). The separated cells are subjected to
gene delivery vector and gene delivery is then verified. The cells with desired properties are then propagated in the laboratory \((in~vitro)\) and transplanted back to the patient. \(In~vivo\) gene therapy entails delivering the desired gene into the patient without removing the target cells from the body. This method would be appropriate if the target is a solid organ (for example, lung or brain). One candidate for \(in~vivo\) gene therapy is cystic fibrosis, a debilitating genetic disease of lungs.

f. CRISPR-Cas for gene editing

While CRISPR gene editing is an exciting prospect and is already used in some clinical trials, some caveats and concerns remain. The biggest concern is off-target mutagenesis. Homologous recombination mediated targeting is not 100% accurate, so the introduced DNA sequence could get inserted into other places in the genome, possibly activating oncogenes (increasing the risk of cancer later in life) or breaking other essential regulatory genes (this could also increase the risk of cancer). It is important to select a targeting sequence that is unique in the genome, so that risk of off-target mutagenesis can be reduced. Also, selecting correctly edited clones in the case of \(ex~vivo\) gene therapy is important.

The current CRISPR-Cas systems are not accurate enough for human trials, but improvements are being done and tested in \(in~vivo\) studies with laboratory animals. One recent example was an attempt by three different teams to correct the defective dystrophin gene in the mouse model of Duchenne muscular dystrophy (DMM)\(^8\text{--}^{10}\). DMM is a devastating degenerative muscle disease in children that is genetic in origin and leads to early death. These mouse models were able to show that DMM could be corrected in vivo by altering the defective dystrophin gene and restoring some of the functionality of the dystrophin protein in muscles. These reports were encouraging as they proved that CRISPR-Cas system could be used for gene therapy of muscles \(in~vivo\), without any need to remove the target cells from the body and then re-import them.

To get the CRISPR-Cas system into target cells, one has to use a vector that can accommodate the required genetic elements. In the DMM studies above, a popular vector, called adeno-associated virus (AAV), was used. The advantages of AAV is that is non-immunogenic (unlikely to generate an antibody response in the recipient), harmless and well known. It can also infect non-dividing cells and the AAV vectors in use do not replicate themselves so they are safe to use – there is no danger of any runaway viral infection.\(^{11}\)

g. Safety concerns related to gene editing with CRISPR-Cas

While the CRISPR-Cas system is more accurate than previous methods, it is not infallible. Laboratory studies have shown that the targeting systems currently in use are not fool-proof. It is possible to have so called off target effects, where the desired genetic alteration (deletion, addition, or substitution of DNA) is carried out elsewhere than intended. This can be harmful as it can cause unintended effects such as cell dysregulation, potentially causing cancer in the recipient. Improvements are being made to increase the targeting fidelity of CRISPR-Cas so that it will alter only the target site.

The current virus-mediated introduction of this system into cells may mean that the target cells may keep producing the system components years after the defect has been corrected. This is unnecessary and increases the safety concerns as there are more possibilities for off-target
adverse effects to develop. The future efforts will include delivering the system using lipids or nanoparticles, but these have not so far been easy to use in living animals.

h. Efficacy issues related to gene editing with CRISPR-Cas

As with any gene therapy case, efficacy is a major issue in addition to safety. Enough of the target cells need to be altered for the patient to get clinical benefit. This is somewhat easier with blood cells, as they can be removed from the patient, manipulated, grown in large quantities and then introduced back into the patient. But in the case of non-dividing cells, such as neurons or muscle cells, efficacy is a major hurdle to overcome. The vector carrying the CRISPR-Cas payload needs to be introduced to patient in a way that only delivers it into the target tissue of interest. Then the vector has to get into a majority of the cells and do its job so that enough of the corrected protein is produced.

For exact nucleotide changes to happen, the cell has to use a process called homology-directed repair (HDR). HDR only works in dividing cells, however, and most cells are not normally dividing. Therefore it easier to make larger alterations in non-dividing cells with the current versions of this system. In the case of Duchenne dystrophy model mentioned earlier, the aim was to knock out part of the dysfunctional Dystrophin gene so that the cell can produce a truncated version that is still functional, and this was achieved.

6. Species engineering

In normal Mendelian inheritance, each allele has a 50% chance of being inherited to the next generation. However, CRISPR-Cas and some other targeted gene editing techniques offer a possibility of creating a so called “gene drive”. The exact methods used are too complicated to explain in detail here, but now CRISPR gene drive systems can be built by any laboratory that can generate normal transgenic organisms. They utilize a CAS9-sgRNA cassette that is self-replicating. It copies itself to both of the chromosomes in a diploid organism, and it persists into subsequent generations, continuing to overwrite both copies of the gene of interest with the gene that has been programmed into the system using the sgRNA sequence. Synthetic gene drive systems can spread traits into populations with greater frequency than a normal Mendelian inheritance would allow. If the spread is effective enough to overcome the possible deleterious effects on fitness (ability of the organism to survive and have progeny), then the artificial construct can keeping spreading in each generation, until in theory almost all of the individuals in a given population have it.

A gene drive could take hundreds of years to achieve its full effect in species with slow reproduction cycles (such as mammals). However, some papers have been published with insects, such as the malaria mosquito vector Anopheles gambiae. Transmission rates in one paper were up to 99.6%. As these experiments carry a putative risk to the ecosystem, they are strictly controlled and performed in isolation laboratories to prevent the engineered insects from escaping into the wild.

One application of species engineering would be to alter Anopheles populations in the world so that they either cannot serve as vector for the malaria parasite or that the female fertility is
lowered substantially and thus the *Anopheles* populations would crash in the wild. The latter scenario could have unintended consequences in the ecosystem and thus gene drive experiments involving wild populations have to be carefully considered by scientists, regulators and other stakeholders before they are ever attempted.

7. Cancer gene therapy

Another exciting avenue of research is *cancer gene therapy*. This means attacking cancer in human body by targeting the cancer cells directly and manipulating their gene expression by viral vectors so that cancer cells either self-destruct or change their behavior into more benign direction. Alternatively, the immune system can be boosted to recognize and kill cancer cells more efficiently than naturally would be the case.

One highly promising idea involves chimeric antigen receptor (CAR) T cells. In this approach, T cells are removed from the cancer patient, and they are altered by gene therapy to express novel, cancer cell specific receptors. Once these CAR-T cells are re-introduced into the patient, they can efficiently recognize and kill cancer cells. This approach has had great success against blood cancers that express a specific antigen (for example, CD19). Ideally, this approach should be non-toxic to patient since only cancer cells would be recognized and destroyed. To further decrease the chance of unexpected adverse effects, CRISPR-Car can be used to delete endogenous T cell receptor genes. Thus each patient would be given CAR-T cells that only recognize the target antigen of interest. CAR T cells may also be effective against solid tumors but these are more difficult to eradicate due to the complicated environment in which the tumor cells reside.

8. Gene editing in human embryos

Further down the road is the possibility of *gene editing in human embryos*. This has been shown to be possible by a researchers in China who did the experiment in non-viable embryos. In this kind of study, edited viable human embryos would first subjected to gene editing, and then they would be carried to term by surrogate mothers. This has not yet been done anywhere. One obstacle is technical – the off-target gene editing is a real problem so the edited embryos might suffer from unexpected adverse effects. Another reason to avoid this is ethical – unborn children cannot give consent and thus they cannot and should not be altered. If the editing were done at an early stage, we would achieve *germ line genetic engineering* and thus permanently alter future generations. While this may be an appealing prospect to some, for example in a case of a serious genetic disease running in a family, it cannot be done within the current legal framework. This is a topic of intense discussion, and some argue that the benefits may one day exceed the risks.

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Bibliography


READING BEYOND THE LINES: THE TRANSLATOR’S QUEST FOR EXTRA-TEXTUAL INFORMATION

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Abstract: An inexperienced translator may be under the impression that “all the meaning” is contained in the document to be translated. In fact, a translator always needs to look for complementary information in order to better convey the message. The translator will considerably improve translation quality by making an optimal use of background information combined with inferential reasoning. The speakers hope to provide a better understanding of the role of extra-textual information in translation and to propose a practical work methodology illustrated with various scenarios, based on their experience as United Nations Arabic revisers.

I - Introduction

Technology and the information revolution have opened a vast world of knowledge to all of us. The translator must develop work habits and a methodology that allow him or her to make the best possible use of search tools and other resources. Looking for extra-textual information is an essential component of translation, albeit often overlooked or taken for granted. As translators and revisers, we very often come across translation mistakes or poor renditions that could have been avoided if the translator had looked for complementary information. Translators often deal with highly specialized, unfamiliar or heavily negotiated documents without being involved in the process that generated them. For this reason, they need to complement their substantive information in order to deliver a reliable translation.

II - Some basic assumptions

The most basic assumption in translation - whether translators consciously think about it or not - is that all human discourse contains a message (or intended meaning) and that somehow it is possible for a person with the right tools to grasp that message, to extract it from the container that is the source language and transfer it into a new container, which is the target language. Whether it is possible to understand the message in all its nuances and complexity (comprehension); whether meaning can be separated from its linguistic envelop (deverbalization) without losing at least part of its integrity; and whether equivalences can be found in the target language to convey the message in a wholesome manner (reformulation), are all questions that can be debated. However, we do engage in the act of translating, which necessarily implies that we believe there is something in a text, some essence of meaning that can be transferred and that different languages offer ways to transfer meaning, even though imperfectly.

Aside from this basic assumption that we hold to be universal, we would also like to underscore the following additional assumptions about the act of translating, based on our experience:

1- A document should be approached as a whole. A sentence to be translated is unlikely to contain all the information needed to extract meaning from it for the purpose of translation; hence the necessity of contextualizing different segments of the same text in order to better comprehend meaning.

2- A document is always part of a storyline. Being aware of the full story is the best way to arrive at a correct understanding of the message. Since this is not always possible from the translator’s standpoint, seeking extra-textual information, as an integral part of the translation process, becomes the translator’s best guide. It sheds light on the evolution of the topic, resolves any ambiguities and helps to understand patterns, including patterns of word usage;

3- Cognitive complements are indispensable to the intelligibility of a text. The translator needs to mobilize his or her general culture and to resort to other external sources of knowledge in order to understand the text, including its implicit and explicit elements;

4- A literal approach can never produce a good translation. Literal translation fails to transfer meaning because it produces awkward and unintelligible forms in the target language. By resorting to extra-linguistic knowledge, the translator will feel more at ease with the subject and ideas, which will enable him or her to reformulate them in a more idiomatic and accessible way. “What is well understood is clearly enunciated”, said French author Nicolas Boileau. When we don’t understand, we automatically take refuge in the literal approach; instead of trying to make the picture less blurry, we sink even more into the fog.

III- What do we do when we translate?

Basically, we understand the meaning and then we reformulate it in the target language. Put that way, translation may sound like a piece of cake. However, the process itself is much more complex. It involves grasping the message; separating meaning from words; getting as close as possible to what the author intended to say and even the emotions he or she wanted to convey. This is called deverbalization. Very quickly, the translator is aware that all the meaning is not contained in the utterance and the need to complement it arises. One salient example of unsuccessful deverbalization due to the lack of knowledge and insufficient research is the translation of “Standard and Poor’s rating convention” by “أﺻﻼاﻟﻠﻀﻌﯿﻔﺔاﻟﺘﻘﺪﯾﺮاﻟﺠﺪارةاﻻﺋﺘﻤﺎﻧﯿﺔ،” where the translator failed to perceive “Standard and Poor’s” as an entity and instead used the dictionary equivalents for the words “standard” and “poor”. Had the translator done a little bit of research, he or she would have realized that “Standard and Poor’s” is the name of a financial company which rates credit worthiness, and that “convention” here refers to the methods of rating. Another example of misinterpretation caused by insufficient scrutiny, is when a translator spelled out the acronym “CBS” as “community-based services”, when in fact it referred to the Central Bank of Sudan. This mistake could have been avoided if the translator had consulted a list of acronyms included in another part of the document.
The following is another example of an ambiguous sentence requiring further research in order to settle its fine nuances: “Approves the investment of the Authority’s Endowment Fund for Marine Scientific Research in the Area with the United Nations Treasury”. This sentence, taken from a draft decision about budget matters, may seem simple on the surface, but an attempt to translate it shows the need for careful research in order to remove the ambiguity created by “with”.

Without summoning extra-linguistic knowledge, translators will remain at the surface of the text, whereas they need to thrust their nose deeper into the multi-layered and subtle allusion or reference. By training themselves to be cognitively alert and methodically skeptical, they will definitely enhance the quality of the output. The greatest risk a translator faces is to lose his or her alertness, to grab the first meaning that comes to mind and to hold on to it with too much confidence. As William Weaver puts it: “The worst mistake a translator can commit is to reassure himself by saying, ‘that’s what it says in the original’, and renouncing the struggle to do his best.”

IV- Does the translator need to be a subject matter expert?

Translators often deal with unfamiliar topics that fall outside of their field of expertise. This has led some people to take the view that only subject matter experts are equipped to translate a given text. We don’t share this opinion and we believe that a well-trained translator can always educate himself or herself about the topic of the text, especially thanks to modern search tools and other easily accessible information resources. The translator is more and more required to show skills which go beyond the mere mastery of two languages. Nowadays, a translator must be well-read and curious about the world, be a tireless researcher who is willing to learn about any topic and be perseverant enough to dig deeper into the text in order to understand what it means. At the same time, a translator must be always ready to question his or her own assumptions.

V- Common obstacles to understanding

Despite the variety of documents, topics and circumstances, it appears to us that the vast majority of comprehension difficulties in translation fall under one of two categories:

1) Novelty: Novelty is when the translator encounters a topic or a concept that is new to him or her. It can arise from the translator’s lack of familiarity with the topic or from the fact that the concept itself is a new coinage in the source language. For example, when translating a document about information technology, the translator may be faced with a newly coined term such as “material design”, a concept developed by Google around 2014 and introduced in more recent versions of the Android operating system. The translator first needs to understand what “material design” means in English before setting out to find an equivalent in the target language. A quick search of Linguee for example reveals that the majority of occurrences deal with actual materials and are therefore translated into French as “conception des matériaux”.

which is useless in this context because in this case, we are not talking about the material of which the device is made, but rather a software design concept that makes virtual objects look more real. Other interesting examples are “disruptive technology” and “native advertising”. Understanding the definition of the concept and devising an equivalent which covers all its semantic traits is a daunting task. For example, we have noticed that some equivalents suggested in Arabic for “disruptive technology” only retain the disturbance caused by such a technology, whereas it would be more relevant to look for an equivalent focusing more on its groundbreaking nature. As for “native advertising”, the translator should read more about this form of online embedded advertising in order to grasp the exact meaning of “native” and thus avoid translating it right away into “أصلي”. When faced with novelty, the translator is inevitably required to read beyond the lines, to get to the bottom of the new concept through all possible means (dictionaries and encyclopedias; search engines, including images and videos when available; asking experts; reading other documents on the same topic; examining relevant bilingual texts if available; etc.).

The translator can sometimes “witness” the event. For example, the “silent spectre of a candlelight vigil” referred to by the Secretary-General is his message on the World Day of Remembrance for Road Traffic Victims, became much clearer to the translator after finding pictures of the event online. This inspired the translator to devise a better equivalent. In another case, watching a video on YouTube about airdropping food pallets helped the translator get the picture. Such external sources can even in some cases allow the translator to ascertain the exact title of an event, the accurate pronunciation of entities and names and the gender of participants referred to in the text.

2) Ambiguity: Ambiguity is a situation where the translator encounters a word, phrase or sentence that can be interpreted in more than one way, especially when the context does not provide enough information to allow the translator to select a correct translation. A frequent case of ambiguity in English texts is that of nominal compounds such as “collaborative procurement agreement” (Does “collaborative” describe procurement or agreement?). Ambiguity can also stem from a poor choice of words by the author or speaker. One translator was working on a document where the authors frequently used “nation states” instead of simply “States” implying that they had a specific category of States in mind. However, the context did not support such an interpretation. Fortunately, the translator had the possibility to communicate with the authors, which is not the case for certain types of documents. After several emails back and forth, the authors agreed to simply drop the word “nation” throughout the document. A poor grammatical construction or a spelling mistake in the text can also create ambiguity, for instance when “export specialists” was misspelled as “expert specialists” or when “lessens the burden” appeared in the text as “lessons the burden”. Little typos like these can cause a lot of unnecessary pain in the neck for the translator. This is the reason why texts need to be carefully edited, but not all clients are ready to allocate the necessary resources to do this. Finally, there are cases of deliberate ambiguity, especially in diplomatic discourse. The example of intended ambiguity in the withdrawal clause in UN Security Council resolution 242 is notorious.

Some may argue that all the translator needs to do when faced with ambiguity is simply to carry it over to the target language, i.e. keep the translation ambiguous in the same way. However, it is not always possible to find a word or phrase in the target language that carries the same multiple meanings. Add to this that tolerance for ambiguity may vary depending on the audience or even the culture.
Faced with ambiguity, research is again the best tool in the translator’s hands. Specific tools include relating the text to other texts on the same topic to see if they can shed light on the ambiguity (rel-texting, chron-texting). Previously translated documents (bi-texting), can also give the translator new ideas based on how other translators approached the issue.

VI- Common obstacles to the transfer of meaning
Having overcome novelties and ambiguities, the translator now has a clear idea of what was said in the source sentence. The ensuing journey is to transfer the meaning to a new cultural and linguistic context, and to dress it appropriately so that it can be presented to a new audience. That journey can also be fraught with challenges. We would like to highlight two of those challenges, which we have often encountered while translating or revising:

1) Equivalency: Equivalency is about finding an expression in the target language to convey the same idea in the source language. It is one of the intractable difficulties in translation, because some words or expressions have not yet been coined in the target language or they don’t have a well-delimited equivalence. For example, the abovementioned expression “disruptive technology” does not seem to have a definitive equivalent in a number of languages. In Spanish, you may find “tecnología desestabilizadora” or “tecnología perturbadora” or “tecnología revolucionaria” or any number of variants. Arabic hesitates between several unsatisfactory equivalents (تكنيولوجيا التقلابية، إخلالية، أرباكية؟). Sometimes even an apparently simple term such as “default position” can be troublesome (الموقف الاعتيادي، المعهد، السلع؟). The word “already” is also a little bit of a headache in Arabic (بالفعل، سابقًا، أصلاً؟). In some cases, words seem to be ganging up against the translator: One word like “chair” or “stool” would not cause any issues. But if you were translating into a language like Arabic, and you had to distinguish chairs from stools, you would be hard-pressed to come up with a good solution. In other cases, cultural gaps between languages make it difficult to coin an equivalent expression which will be understood and accepted by users of the target language. For example, finding neutral equivalents for gender orientation concepts in Arabic has been a long process. Even now, such neutral terms as “المثليون” and “المثليات” for “gays and lesbians” have not been totally assimilated. In some Arabic dictionaries, the word “queer” for example is rendered by pejorative equivalents such as ﻟﻮﻃﻲ or شاذ or ﻣﻨﺤﺮف. The equivalent ﺑﺮاﺋﻪ ﻟﻠﺠﻨﺲ has been used by some Arabic LGBT associations since the end of 2000.

True and accurate equivalency is a rare gem, which can only be encountered, with a little bit of luck, after a lot of digging. Sometimes the best equivalent is not strictly an equivalent but a much longer explanation. For example “status of cases” in some UN documents, is translated by the long form المرحلة التي بلغها النظر في الحالات, literally “the stage reached in the consideration of cases”.

The choice of equivalent is in some cases dictated by established usage (e.g. translating “sponsoring State” as "الدولة المزكية" in the United Nations Convention on the Law of the Sea and

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its regulatory texts). In other contexts, “sponsoring State” is usually translated as “الدولة المقدمة”, which is the equivalent of “submitting State”. Using idiomatically appropriate equivalents is an essential element of a good translation. For example, the idiomatic equivalent of “Al-Aqsa Mosque compound” in Arabic is “مجمع المسجد الأقصى” and not “حرم المسجد الأقصى”. Another example is “hunger strike” which is commonly translated as “إضراب عن الطعام”. A translator who uses the equivalent of “submitting State”, literally “abstaining from food” will be contravening good usage and even deviating from the implied meaning that the person is using hunger as a means of protest.

A special type of equivalency is the problem of back translation. When you have names (especially geographical names), quotations or other references in your source language that are originally from the same target language you are translating into. For example, “local plant” in a text about the situation in the Palestinian occupied territories was back translated in Arabic after thorough research as “عكوب” which is an edible plant that the local Palestinian population gathers and sells in the market. The best scenario is to be able to find the original reference and copy it as is. For example, when translating into English a document containing references to the US constitution, the translator needs to quote the English text of the constitution.

How do we go about solving an equivalency problem? The best way is to exhaust all available resources in order to understand the concept and find the most appropriate equivalent in the target language; try to see how other translators dealt with the problem; or coin our own equivalent if it comes to that, using our common sense and best judgement.

2) Consistency: Consistency is the need for the translator to make sure that his or her translations are coherent throughout the document and that he or she is using words and expressions that allow for a continuum as compared to previous texts on the same topic. Consistency does not come easy. It requires constant vigilance and checking. We have seen documents where “ethers” is rendered in Arabic variously as “إاثيرات، أيثرات، أثيرات،...”. An even more challenging level of consistency is consistency throughout a set or series of documents. We are not saying that everything needs to be translated exactly the same way all the time, but if you look at a set of related documents as telling a story, you do not want it to be a story where the names of the characters keep changing all the time. You do not want a person whose name on her passport is “Layla” to be referred to sometimes as “Laila” or “Leila” or even “Lily”. Consistency is particularly important in a multi-translator/reviser context. It is crucial that the final document does not look incongruous (for example, translating “deforestation and forest degradation” as “إزالة الغابات وتدهورها” throughout the text and not shifting occasionally to “إزالة الأضرار وتدمرها” الغابات). Keeping the same equivalents of recurring items, titles or subtitles in a document is a good example of consistency.

Consistency is hardest to achieve when dealing with several sources. When the translator encounters references (especially direct quotations) from previous documents, he or she may find that such texts were not translated in a consistent manner. For example, the equivalent of “enactment actions” (أعمال القمع) in the Arabic version of the UN Charter seems today unacceptable, so a translator would find it difficult today to deal with quotations from the Charter due to the need to preserve the integrity of the authoritative text, even though the translation may be somewhat obsolete.
In a document referring to the retired members of a certain body dealing with the law of the sea, a resolution was quoted where the word “retired” was translated as “تنحي”. This translation is inconsistent with the accepted equivalent today, which is “تقاعد” or “انتهاء مدة العضوية”.

Consistency is one issue where modern CAT tools can provide valuable help, first by showing the degree of inconsistency in a set of documents, and then by presenting the various options, including terminology, so that the translator can make an enlightened choice.

VII- Conclusion

Translation is intrinsically a human activity, and for many, a form of art, therefore there is no such thing as a perfect translation. We will always make mistakes, either because the author’s intent somehow escaped our grasp despite our best effort; or because we could not find a clear and simple way to carry the message in a wholesome manner over the linguistic and cultural gap; or even because of other human factors such as mental fatigue, distractions of all kinds or lack of time and inspiration. However, we never give up and continue to translate, notwithstanding all these imperfections.

We believe however that the translator, by paying attention to the issues above and doing his utmost to address them within his or her time constraints, will at least be able to avoid a few serious mistakes that can be detrimental to his work and ultimately to his reputation. As judiciously noted by Umberto Eco: “[…] Yet, the translator’s success lies precisely in achieving invisibility.” After all, it is no secret in the world of translation that excellent translations generally go unnoticed while translation mistakes become the talk of the town.

Finally, we don’t want to leave the impression that translation is only about toiling in anonymity. It is most of all a source of wonder, pride, joy and satisfaction for every genuine translator.
YOU'RE NOT FLUENT YET! SPEAKING THE LANGUAGE OF SUSTAINABLE DEVELOPMENT

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Abstract
In our newly interconnected world, neologisms continually pop up in the world’s most widely spoken languages. As a result, movements focused on sustainable development are rapidly gaining traction at the international level. This session will focus on learning new terminology related to current social and environmental trends. Using French examples, the speaker will discuss new linguistic trends and translation strategies to advance global sustainable development goals.

Learning objectives:
1. Gain a clear understanding of current issues in sustainable development
2. Learn strategies to stay up-to-date on terminology and global developments
3. Learn how to gain experience and grow your network while advancing sustainable development goals

OBJECTIVE 1: Understanding sustainable development

Definition
As defined by the United Nations World Commission on Environment and Development in 1987 and still applicable today, sustainable development is “development that meets the needs of the present without compromising the ability of future generations to meet their own needs.”

Sustainable development is based on the interplay of two key concepts:

1. Needs (specifically of the world’s poor);
2. Limitations imposed by technology and society on the environment’s ability to meet present and future needs.

The term “sustainability” was first used in the 17th and 18th centuries in relation to “sustainable forest management” and “sustainable yield,” which eventually formed the basis of the environmental movement started by Aldo Leopold in the 1960s. The first topic addressed by sustainable development that therefore comes to mind is environmental conservation, but there is in fact a range of interconnecting fields in the field of sustainable development itself, as listed below.

SOCIAL MOVEMENTS
- Historic preservation
- Placemaking
- Sharing economy
The Future of Sustainable Development

The good news for us as translators is that sustainable development is a growing field. For example, it has been estimated that there are currently only about 100 manufacturing companies worldwide who have truly adapted a circular strategy but that the circular economy could add US$2.6 trillion to the European economy by 2030.2

Another factor is that cross-cultural communication is essential in achieving the goals that the world has set for itself. As a case in point, researchers have argued that language serves as a tool for sustainable development, specifically in regions such as Africa where local languages must be taken into account. By communicating in the local language, we switch the focus on the local community as a relevant source of development. As described by Thomas Bearth and Diomandé Fan in 2004, “Economists have traced the “failure to achieve objectives set in overseas development co-operation to what they call the "broken feedback loop" [...] i.e. a deficit in the flow of communication from the local community back to the sponsors.”3 Even more reason for us, as translators, to close the loop.

OBJECTIVE 2: Staying up-to-date

Where to research terminology
Given that sustainable development is a growing field, there is an abundance of material available to the public that will allow you to gain knowledge about basic concepts and build your vocabulary. I mainly suggest the following: reading articles in the news, in journals and on websites focused on new initiatives and research; following companies and individuals who promote sustainable development on Twitter and engaging in their posts; taking MOOCs on related fields; and attending relevant webinars and expos—all with the goal of increasing your knowledge and growing your network.
Conducting searches online to see how other organizations use certain terms and referring to online dictionaries is also an excellent way to become an expert. In addition to information available in multiple languages on the UN’s website, many dictionaries have been compiled on sustainable development by different governments, as listed below.

Online dictionary resources:

**France:**


**Quebec:**

*Vocabulaire du développement durable* FR-EN (Link: http://www.oqel.gouv.qc.ca/ressources/bibliotheque/dictionnaires/terminologie_deve_durable/fiches/)

*Vocabulaire panlatin du développement durable* Written in French, providing translations in 5 languages (Link: http://www.oqel.gouv.qc.ca/ressources/bibliotheque/dictionnaires/panlatin_ddurable_20150330.pdf)

A list of helpful resources in multiple languages has also been listed on the [SciTech Division’s website](http://ata-sci-tech.blogspot.ca/2014/02/glossaries-for-environmental-science.html) by Amy Lesiewicz.

**Neologisms**

When reading about sustainable development, there are often new expressions and terms that have not yet become commonplace. While it is tempting to sound “cutting-edge,” using neologisms is a matter of walking the line between what constitutes specialist knowledge and what the general public will understand.

It is therefore important to remember the importance of good writing. Using plain language is key to communicating ideas clearly, regardless of the field in which you work. Avoid buzzwords and remember the following stylistic tip, as offered by the Canadian government in their 1991 style guide:

> Trendy, fashionable expressions [...] are used far too often. They can undermine the impact of what you’re trying to say because they are not well understood by the public. The fact that they are trendy will also mean that they will soon date your writing. Avoid them.4
Online tools
According to a study by Google and Harvard published in the journal *Science* in 2010, about 8,500 new words enter the English language annually, which resulted in a 70 percent growth of the lexicon between 1950 and 2000. Stemming from this research, a number of online tools have been developed that use what is known as “computational lexicology,” which is the analysis of millions of documents to determine the frequency of usage of words and expressions. The following are a few examples of such tools that can provide a snapshot of a word’s usage.

1. **Google Ngram Viewer** While the Google Ngram viewer allows you to specify a language and timeframe, it is arguably not the best tool due to poor Optical Character Recognition (OCR), as the corpus of work uses digitally scanned books on topics ranging from scientific literature to fiction. This means that the results only consider a fraction of new words that have actually made it into print.  
   (Link: https://books.google.com/ngrams)

2. **Diatopix** Developed by Patrick Drouin at Université de Montréal, this tool allows you to see the frequency of usage of words and expressions in English according to the region. It is a useful tool for making an argument to a client about why to use one term over another.  
   (Link: http://olst.ling.umontreal.ca/diatopix/?lg=en)

3. **Google Scholar** This engine searches physical and digital copies of publications and is especially useful for academic research. With the option of specifying the search language, Google Scholar allows you to see how terms are used and in what context to verify that the translation you plan to use is suitable.  
   (Link: https://scholar.google.com/)

4. **Le Révélateur linguistique** (French only) This tool provides quick Google search comparisons according to French and English language variants.  
   (Link: http://lerevelateur.etiennelj.com/)

Lastly, intuition is the most important tool of all. While you must always be prepared to give a well-informed explanation of your word choice to your client (based on frequency of use, grammar and punctuation rules, and reference dictionaries), your personal opinion can be just as persuasive.

Censorship and changing behavior through language
It is important to bear in mind that banning words is far less effective than making a persuasive case for better words and that it is better to use language we perceive to be neutral and clear.

For example, a Change.org campaign was run in 2014 to “Stop Using the Term ‘Child Prostitute’” in an effort to avoid censorship and make society more compassionate. Over 150,000 supporters petitioned the Associated Press and argued that the terms “child prostitute,” “juvenile prostitute” and “child sex worker” “suggest criminality when none exists.” It was suggested that these terms be replaced with the expression “survivors and victims of rape,” in the belief that
“Children who are bought and sold will continue to be treated as criminals, instead of as victims and survivors of child rape.”

It is therefore important to remember to power of positive language.

**Cultural differences**

The cultural nuances of language are essential in making different movements compatible in another country. As language specialists, we know that some words carry more weight than others in certain languages, which can make conveying their power in another language difficult. The same movement in one country may also focus on different aspects in another country, such as the concept of *écocitoyenneté* in French, which has no equivalent in English. Reflecting the French value of being a good national citizen, this would most likely translate to “environmentally conscious world citizens” in English.

Keeping these cultural differences and values in mind is important in order to have a greater impact on the target audience.

**OBJECTIVE 3:** How to grow your network, find clients and advance sustainable development goals

My first piece of advice is to follow your passion; it will make you much more interested and engaged in your work. Developing a mission statement, identifying your target clientele and fine-tuning your elevator pitch will make your efforts much more focused and help you to find your own niche market. Also be sure that your website, online profiles and marketing materials also clearly reflect your mission statement, as it will attract the type of people you’re looking for.

To find and attract clients, initiate contact with potential clients by engaging on Twitter and LinkedIn, and by attending industry events. My philosophy on networking, although energy-intensive, is that gaining one client through in-person networking or directed marketing efforts serves as a gateway to other clients as word-of-mouth is the most effective (and effortless) way to get more clients.

If you do not have prior experience in the field, I suggest volunteering your services, especially in the field of sustainable development where a large number of clients are non-profits that heavily rely on volunteers. It is an excellent way to build your vocabulary, become knowledgeable about basic concepts and build your portfolio.

Lastly, having an online portfolio and resume that describe projects you’ve worked on and how they have helped your clients shows potential clients that you are forward-thinking and focused on their objectives. Listing your “ideal” projects will help you get more of the same in the future.

In conclusion, the more you can show your clients that you understand and believe in the ideology of sustainable development, the more convinced they will be that you can provide them with quality translation services that are tailored to their needs and objectives. If you have this mindset and you understand the sustainable development paradigm that takes an all-
encompassing view of the world, you will come across as your client’s partner and someone who has the same goals in mind. As in any field, it is important to focus on what the purpose of the translation is, instead of simply trying to convince your client that you can produce a “good” translation; you want to show them that your work is effective.


