Term Issues in Medical Translation: Expanding Usage in Local Languages

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Abstract: Despite significant progress in the study of languages, the use of local languages in many regions is often viewed as restricted to informal contexts such as trading or community problem-solving. They are said to be incapable of extending their use to express important scientific notions, including those from the field of medicine. This paper investigates a set of medical terms in some West African languages, looking at how these terms are translated. The study draws from various disciplinary approaches, including linguistics, terminology, and translation, with emphasis on the cultural dimension of language. Relying on previous linguistic descriptions and translation projects in four representative sample languages, the paper presents an analysis of the methods for term creation or formation of selected HIV AIDS terms, then explores possible attitudes from speech communities towards the intrusion of new concepts. This paper offers some insights into the importance of using local languages in development programs and lays the groundwork for a more objective appreciation of less documented languages. The paper eventually shows that translating medical terms into local languages also means exploiting creativity in language, extending existing domains of usage, as well as enhancing the as yet hardly positive attitude towards linguistic repertoires which can be used in the process of community building.

Keywords: Medical Translation, Medical Terms, Term Formation, Language Use, Lexical Extension, Local Language, Linguistic Creativity

1. Introduction

Translating terms from specialized fields is one of the most important and challenging tasks a translator might come across. Dancette & Rhétoré[1] suggest that if a translator would deal with terms efficiently, they should feel autonomous in choosing equivalent terms and understand both the subject field and the main notions in the field. In order to work with soundness and confidence on a specialized text, the translator should feel autonomous in his search for equivalents [....] This autonomy depends on two related factors: a good understanding of the global structure of the 'conceptual field s/he's dealing with as well as the mastery of the fundamental concepts […] the deeper the understanding of the concepts, the more likely is the translation to be faithful [1].

According to Temmerman, for a translator to understand 'autonomously', s/he doesn't have to rely on 'readily insertable' equivalents, but can look for the best way of expressing the ideas of the original text [2]. Though Temmerman's observation is true in many respects, one must admit that searching effective equivalent terms in the target language is not a straightforward activity. It not only requires a good understanding of translation principles, but also an adequate usage of the linguistic resources available in the languages involved. In the case of less-widely used languages, however, dealing with specialized terms is particularly challenging, sometimes resulting in the rejection of newly generated terms or to the conclusion that those languages are unable to develop terms from scientific domains.

Thus, despite significant progress in linguistics studies, there is a general belief that some languages remain inefficient

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1 Le traducteur, pour travailler avec intelligence et assurance sur un texte spécialisé, doit se sentir autonome dans sa recherche d'équivalents […] Cette autonomie dépend de deux facteurs liés: la compréhension de la structure globale du 'champ conceptuel où il évolue' et la maîtrise des notions essentielles […] plus la compréhension des notions est profonde, plus la traduction a de chances d'être fidèle.

in expressing scientific concepts, educating modern societies, or coping with current development issues. The use of local languages is seen as restricted to informal contexts such as trading or intra-community problem-solving [3]. It is worthwhile asking whether those languages are really incapable of extending their use to express important scientific notions from the field of medicine, for instance.

Wright notes that words derive from everyday language, whereas terms are selected from specialized fields [4]. Based on this definition, to assert that less documented languages are incapable of expressing scientific notions is also to ascertain that they cannot integrate and develop terms from a specialized field such as medicine, where significant linguistic inroads have yet to be made in various speech communities. However, Ketiwe discusses the term-creation strategies used by Ndebele translators in Zimbabwe in the health sector, Madzimbamuto raises a few issues regarding the development of anatomical terms in ChiShona, and Nahounou discusses the strategies used for translating AIDS Terminology in Ivorian Languages [5-7]. These cases show that new terms can be created in those African languages, though some cultural or field specifics may be involved.

With respect to field specifics, Pearson proposes that more attention should be given to how terms are used within subject fields and their impact on the prospective audience. [8] Assuming that the study of general language words is a task far too broad to account for the way language is used in different fields, Pearson shows more interest in the study of ''sublanguages'', which refers not only to the terms specific to a field, but also to specific grammatical constructions which differ from general language structures.

The creation of new terms usually responds to the need to introduce a new domain of knowledge into a culture, which inevitably leads to the expansion of the specific field of knowledge. Given the rise of current discoveries in many technical and scientific arenas today, many African countries feel the need to participate in the advancement of research likely to improve terms in different subject fields. One of the goals is to improve the status of their respective languages and preserve their cultural identities. To achieve this, however, it is crucial to consider the particular landscape of works on term creation, as expressed by Ketiwe: "As African languages develop at different rates, the problem of term creation is experienced differently by each language" [5], which emphasizes the need for individual approaches to the matter in individual countries.

Consequently, the present study focusses on the way translators of the selected sample languages treat specialized terms in the medical sector. Since term creation may be experienced differently in different contexts, it is worth looking closely at those languages in the medical fields, with the following questions in mind: Which linguistic resources and techniques were used in the language samples to translate a given term? Did the translators successfully apply the translation principles and techniques to the items in the corpus? What terminological input is necessary to improve the translation and usage of these terms? Considering these

questions will lead to better insights into how local languages can be used to foster development programs and community-well-being [9, 10]. By the same token, local language actors may become more aware of their responsibility in the process of community-building, which lays the basis for a more objective appreciation of less documented languages.

2. Theoretical Framework and Literature Review

This chapter provides an overview of a combination of disciplinary perspectives adopted in the study. It mainly draws on various sources from the fields of terminology, the interface between translation and terminology, general translation, as well as the main pitfalls in creating medical terms. The objective is not only to show how these approaches interrelate, but more precisely how they support the methodology adopted in the present study.

2.1. Theoretical Framework

The relationship between translation and terminology was stated by various authors. Baker & Saldhana express that relationship in the following terms: […] ''terminology clearly has ties to other areas of applied linguistics, including specialized translation, and while terminological investigations can certainly be carried out in monolingual settings, one of its widely practiced applications is in the domain of translation [11]. On his side, Cabré recognizes a few cases where terminology and translation can relate: "From the point of view of translation, terminology is considered a tool to solve particular problems, while in terminology, translated documents may serve as a source for extracting terms when there are no original texts on the subject in the target language" [12].

This said, terminology may be useful to the practice of translation in two main ways. Firstly, terminology resources, mainly term banks and glossaries, are intended to help translators find the exact equivalent for a term in the source language, learn the meaning of a term, or select the best option among a range of terms which may broadly designate a notion. The use of terminology in this way is rather common in widely used languages, which have had a long tradition in many specialized fields where terms are well established. Sometimes, however, existing glossaries and term banks may not directly help solve the translator's problem. The lack of standardized reference data or updated glossaries in the language of translation may account for the inefficacy of terminology to meet the translator's needs. On the other hand, when dealing with a totally new field in the target language or a field where terms are not well established, the translator's difficulty lies in suggesting an adequate term to fill the lexical gap. In this case, the translator's involvement in the translation of certain terms intended to transmit specialized knowledge can be viewed as of terminological nature. The document produced may then constitute a source for future term

collection and standardization. In addition to using term banks to solve translation problems, a translator may also increase his/her knowledge of a field by getting familiar with new terms and the concepts they convey. Thus, new terms serve as a means to acquire specialized information or to transfer a new field of knowledge into another language or culture.

One common functional approach to translation is the *skopos* theory, which places a high value on culture as a sine qua non condition for achieving a successful translation act. Nord considers translation as an act that targets a specific audience with different cultural contexts and specific ways of conceptualizing and interpreting the world's events [13]. In this perspective, the goal of translation is to adapt the main information in the source message -expressed through verbal or non-verbal codes- for the receptor culture, taking into account their verbal and nonverbal patterns of message transmission, world's perception, background, and capacities to decipher the transmitted message. The source language is seen as carrying a cultural load that embodies specific pieces of information. The task of the translator, therefore, consists in 'snatching out' these relevant pieces of information, leaving aside all irrelevant linguistic and cultural elements of the source language, and 'depositing' the necessary information in the target culture. In so doing, the translator ensures that the target culture is now able to receive and integrate the message to its own cultural patterns. Relying on the *skopos* theory and the principles of terminology, the paper applies the discussion to the practice of translation as a versatile task, placing a high value on the cultural dimension of language, seen by linguists such Diki-Kidiri as a necessary approach to properly assess terms in African languages [14]. These insights, coupled with pragmatic considerations, will guide the analysis and enlighten some of the recommendations.

2.2. Literature Review

The present research review on medical terms seeks to understand their creation principles, the major difficulties in creating those terms, the necessity to pace medical communication to patients' needs, as well as issues of term quality management. Fischbach and Karwacka observe that frequent problems may affect the quality of terms when only one group of actors deal with the editing of medical documents [15, 16]. The authors elaborate on a set of conditions which calls on the interaction of both language specialists and medical professionals so as to achieve quality assurance in medical translation. Discussing the main pitfalls in medical terms, Rouleau links the proliferation of Greek or Latin roots in medical terms as the main source of breakdown in medical communication [17]. The abundance of Greco-Latin roots is justified by the fact that Greek and Latin had long been used by medieval physicians as the international means of communication.

Argeg uses an evaluative approach to investigate the intricacies involved in translating medical terms from English into Arabic [18]. This study raises some of the main difficulties a translator might come across, as well as the possible ways of overcoming these difficulties. One major problem is related to language shift, by which new words are introduced into the language while others disappear from the daily usage. Still in the same perspective, Naznean admits that medical terms are difficult to handle, the main reasons being their rapid growth, the existence of synonyms with minor shades of meanings, and the lack of term standardization in many languages [19].

As for Hannelore, the translation techniques used for translating medical terms rely mostly on the skopos theory [20] - which places both the purpose and addressee at the cornerstone of message delivery. Hannelore suggests that in order to achieve comprehension, the choice of terms should consider some preliminary issues such as the type of medical text and the purpose for its translation. The different purposes of a translation can account for the variety of terms used, which may also reflect various degrees of comprehension.

Rask conducted an interesting study on the cultural aspects in translating medical terms, mainly the cultural references for national institutions or organization in Sweden and the United Kingdom [21]. One solution involves changing the cultural reference when it does not exist in the target language, the objective being to make the target readers ''feel at home''. In a similar vein Dilora presents an analysis on the results of translation of medication package inserts from English and German to Russian and Uzbek languages [22]. The author presents some data about the frequency of use of the translation techniques, using lexical and grammatical transformations in translated units. The most frequently used translation techniques include: equivalent lexical forms, combination of different techniques, calque. The review of the existing research allows us to make the following observations:

Creation of new terms should integrate a / a concern for cultural aspects, and involve as much as possible, the target community in the process of term creation.

The integration of new terms is a means of expanding the domains in which a language can be used and there expand the lexicon of a given language.

Medical terms can be created and used in African languages to achieve positive results in medical treatments or prevention.

Though the review of research addresses common problems in the field of medical translation and possible solutions, little was said concerning the possible impact of newly generated terms among target communities. In the case of substituting a cultural reference, for example, there has been no judgment on whether a translation solution for a medical concept does justice to the cultural perception a language community or how far its usage might affect attitudes toward a disease or sick people. It also remains to be seen how the principles of terminology may help improve terms made up of long descriptions.

3. Research Methods

Translating new concepts, as perceived and undertaken in the scope of this survey, stands as a prerequisite for a successful translation. By successful translation, I mean one

that reflects the speakers' perception and attitudes towards the intrusion of new concepts into their language. In fact, when translating into African languages, especially from specialized fields, translators may come across terms that are particularly challenging. The complexity and nature of these terms may vary, and as Barnwell suggests, different solutions may be adopted for their translation [23]. The study looks at some of those terms and possible translation solutions in the medical sector.

3.1. Selected Sample Languages

Four Ivorian languages were selected as our representative samples (Baule, Bhete, Senufo, and Dan). The choice of these languages was motivated by two main factors. Firstly, in order to guide future works on translation, it is crucial that the languages of investigation be representative of the four main language families in the country, namely Gur, Kwa, Kru and Mande. Secondly, within each family, those languages were selected with respect to the amount of linguistic description as well as medical translation projects conducted, as these lay the groundwork for a sound analysis.

The work mainly explores the translation of medical terms, with emphasis on HIV/AIDS concepts. This field is an important linguistic research area with respect to new term creation. The sample terms come mainly from translation projects conducted by local translators with experience in both translation and literacy programs with local institutes which are dedicated to producing educational materials for local communities. A significant amount of published documentation is available in these languages and their respective variants selected for this study, namely *Central Baule, Bhete of Daloa, Cebaara Senufo* and *Dan-gwɛɛta*. [24-27].

3.2. Data Collection

The corpora come mainly from medical materials translated into the selected sample languages. Ten (10) terms were selected, which include: *AIDS, virus, syringe, vaccine, condom, HIV-positive, contraceptive pills, blood test, immune system,* and *anticorps*. These terms are common and likely to be used to educate people about the nature of HIV/AIDS and its various modes of transmission. These terms typically designate medical objects, medical testing, and sick people or those presenting certain symptoms. As translation is viewed as a means of preserving and promoting languages, the present work purports to acknowledge and demonstrate that translation into mother tongues can serve as a bridge for preserving cultural values and transmitting specialized information. The descriptions mainly look into the internal resources of the representative sample languages.

4. Data Analysis

Before considering the morphological and phonological patterns involved in the translation of the selected samples, it would be beneficial to have a quick survey on how a few terms

were translated in other languages. As seen previously, medical terms in general are formed based on Latin and Greek roots. However, since the field of HIV/AIDS is a relatively new one, term formation often occurs in modern languages, particularly in English. These terms usually display the morphological processes available in these languages, as well as the adoption of translation strategies, including the use of acronyms. In Buzarna's classifications of existing types of medical acronyms, he distinguishes between those identical in both source and target languages, and those existing with different designations [28]. For example, the English acronym AIDS is the same in German (AIDS), but is different in French because the definitions of the initials in this language give a different ordering, SIDA. The English term HIV-test was further taken into German as HIV test.

In addition, a few terms are the result of morphological combinations, mainly 1) immune system (EN), Immunsystem (GER), système immunitaire (FR); 2) contraceptive (EN), Empfägnishütende Mittel (GER), contraceptif (FR); 3) antibody (EN), Antikörper /Gegenkörper /Immunkörper (GER), anticorps (FR). Besides these morphological arrangements, the French term *capôte* (a common term for condom) is a metaphorical description of the actual condom, which was applied to the medical field. Originally, *capôte* was a huge piece of cloth with a protective head cover. The adoption of the word into medicine, namely into HIV/AIDS, is to provide an easier depiction of the device for common usage, though the term condom had existed for civil control before HIV/AIDS was discovered. Having shared this introductory section on medical term formation, let's consider the table below which displays the frequency of the translation techniques in the selected sample languages.
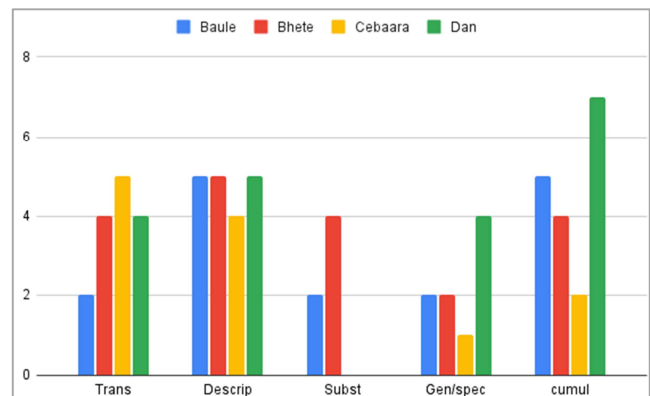

Figure 1. *Occurrence of Translation Strategies in Sample Languages.*

In accordance with the data studied, it is noticeable that a specific AIDS term is not necessarily translated with the same technique in all four languages. Each language uses the technique that seems appropriate to come up with a term. As illustrations, Baule, Bhete, and Cebaara transliterate the term AIDS from the French equivalent acronym SIDA, respectively as sida and sidaaw, whereas Dan uses the descriptive compounds sida –yua and "yua 'kpii- ''the disease of AIDS'' or ''big disease'', where the first item of one compound is transliterated. One important thing to consider

with the transliteration of the acronym SIDA is that once the term is transliterated, speakers do not seem to know that it was initially an acronym, which is yet one of the most frequent term formation processes in the medical field. Concerning the use of acronyms in medical communication, Buzarna writes:

[...] abbreviations enable medical professionals to "encrypt" the true meaning of what they denote, thus making the content somewhat inaccessible to the patient who might not have extensive or enough medical knowledge in order to understand the respective text. Although, at times, this is advisable due to certain ethical reasons, the extensive use of abbreviations tend to obscure the meaning in many situations, as they might be the source of ambiguity, since even in highly technical fields, one acronym or abbreviation may stand for several different terms. [28]

In addition, in translating the term syringe there is visibly a change of techniques across the languages. Baule culturally substitutes syringe for mnsɪn "needle", Bhete transliterates this term from its French equivalent *piqûre* as picejeyi, whereas Cebaara and Dan respectively use descriptive compounds in piigi naana "nail for vaccinating", and pike ga or mɛ zü -zaɔ 'ka =sɛdha ga "needle for vaccinating". Furthermore, we find throughout the medical corpus that although the same technique may be used in any two languages to translate a term, not exactly the same component items show up in applying the specific technique. While Cebaara describes a syringe as piigi naana "nail", Dan describes it as pike ga "needle". One may admit that nail and needle do exist as common items among the Cebaara and Dan people, but the decision of the translators is actually related to how people in their respective cultures perceive a syringe. A description in these languages is therefore usually associated with external features such as the size of the object and its origin or function. In fact, a nail must be forced into a piece of wood to fasten it with something else, whereas a needle is used for sewing clothes. Also, Baule and Bhete culturally substitute ngɔlɛ "to make scars" and –wa "scar" for vaccine. Though the core meaning is the same, Baule uses a verb, while Bhete uses a noun.

The words piigi and pike in Cebaara and Dan are transliterations of the French verb ''piquer'' (to stub, puncture). Naana and ga are the words for nail and needle, respectively. However, when two techniques are used simultaneously in a translation, the most outstanding one becomes the head and so the two techniques used are usually designated by the head, the other one being of secondary value. Within the same translation technique, different word classes are used to represent the meaning of the term in the most natural way. It follows that there is no straightforward correspondence of word classes nor of description system in applying a translation technique in any two languages.

Besides, do the Baule use of a verb phrase and the Bhete use of a noun in those constructions change the meaning of the source term? Here, no meaning is changed either. What happens is a shift in perspectives, or ''alteration'', to use Molina & Hurtado's term [29]. They claim that these changes have to be made because of three main types of incompatibilities between source and target languages: 1) Changes due to problems caused by transliteration when a new word is introduced from the source language… 2) Changes due to structural differences between the two languages. 3) Changes due to semantic misfits, especially with idiomatic expressions. One of the suggestions to solve this kind of problem is the use of a descriptive equivalent i.e., a satisfactory equivalent for objects, events or attributes that do not have a standard term in the target language.

One reason for shifting perspectives could be related to Payne's discussion about conceptual categorization that takes place within and across languages. The author asserts that each language categorizes the universe in its own unique way…., so that speakers are constantly involved in figuring out their own categorization scheme compares with the scheme of people they communicate with, whether they are speaking the same language or not [30].

Throughout the data, one notices that two or three techniques were also cumulated, in which transliteration and description (usually descriptive compounds) appear to be the most commonly used techniques. It is useful to consider why those techniques are used more frequently than the others. The following questions come in mind: Is the high frequency of a translation strategy an indication that this strategy is easier to create in language, in other words, is it the most straightforward way of integrating concepts in a language? Is the high occurrence of a strategy synonymous with efficiency? What might account for the frequent use of transliteration and description in our language samples for conveying meaning?

5. Discussion of Findings

Figure 2 below examines the number of occurrences of each translation method in the corpus. Out of the ten terms selected as samples from the HIV/AIDS domain, Figure 2 establishes description as the most commonly used translation technique and the use of generic/specific term as the least employed one. The combination of techniques is usually transliteration + description. One reason for using transliteration is that translators are often guided by the principle of term harmonization by producing morphologically equivalent terms. As a result, many names for diseases are transliterated. The nature of the disease, its transmission, or treatment methods are explained later in separate documents reserved for this purpose. Another observation concerns the factors behind the frequency of occurrence of our translation strategies. In other words, why is description so widely used, whereas general/specific terms along with the other techniques are less frequent? For instance, what might account for the discrepancy between description and generic/specific in terms of their frequency?

One reason for the high frequency of description is to be sought in the explanative or meaning-giving nature of translation. Description tends to be a common way of giving meaning as opposed to transliteration which is basically meaningless from the target language perspective. Transliteration is frequent in translating medical terms

because the health sector is guided by the principle of term harmonization in order to help medical workers easily interrelate within the field.
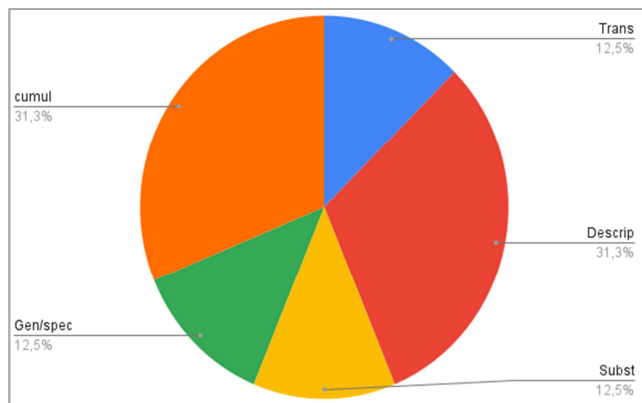

Figure 2. Occurrence of Translation Strategies in Translated Terms.

When using a specific term, the translator should give a specific, contextual example of the generic word in the source language that lacks an equivalent generic term in the receptor or target language. Reversely, if the source language uses a specific term to refer to a particular type of object or item that is unknown to the speakers of the target language, the translator can use the generic term they know to communicate the meaning of the message.

In the medical sector, the methods of translation can determine people's attitudes toward the disease. If the translator chooses cultural substitution in which the substituted item is too much "below" the required standard, in terms of its usual function and how people relate to it, people are likely to overlook what is described, or their fear may increase. For example, the Cebaara substitution of syringe by pigi "nail" portrays a different picture from its Dan substitution ga "needle". Firstly, compared with the size of the actual medical syringe, the Cebaara pigi is much larger. Given that a syringe is used for vaccinating people, the target culture could think of it as something very harmful. Their attention could be led more toward its painful nature than its curative or preventive treatment. In addition, in using this word, a double meaning could arise in the mind of the target audience. For example, the Cebaara people use the same word pigi to designate both a thorn and a nail. In both cases, the term could bear a negative connotation and therefore cause people to want to keep their distance from it.

In contrast with the Cebaara translation of syringe, the Dan substitution ga ''needle'' seems more appropriate because its size more closely approximates that of a normal medical syringe. Likewise, since a thorn is usually harmful to anybody who treads on it or accidentally gets in touch with it, we suggest that its usual function should be changed or improved in the case of its medical perspective, instead of totally rejecting its usage in Cebaara. The translation could therefore use the meaning of pigi as a thorn and this time describe pigi in such a way that it becomes only harmful to the disease in the body of the sick person, whereby overshadowing its potential

harmful effect. This way of dealing with cultural substitution could create a positive attitude among the target culture.

Another example of medical cultural substitution is found in the use of ngɔlɛ "make scars" (Baule) and –wa "scar" (Bhete). One question that comes to mind is whether "scarification" is a common practice among the Baule and Bhete, or whether those translations were suggested with reference to its usage in other translations? What are its meanings, and what attitude do the Baule and Bhete communities have towards this practice today? Scarification involves making small cuts on an area of the skin, usually the face, using a sharp knife or instrument. As a social practice in many parts of Africa, it is used to denote ethnicity, social standing, life stage, to accentuate personal beauty, to enable childbirth, and as a medical treatment [31]. The medical purpose for scarification is also common among the Akan language family, which could explain why the Baule translation suggests it as a cultural substitution for vaccine.

Although scarification was a common practice among the Akan, this social practice is becoming less used in the modern generations as a cultural reference. Some historical traces of this practice can be found among the Bhete, and even some Baule communities still practice it today, though in a less widespread way. However, as modern generations are more aware of scientific development, there might be better ways of translating medical concepts, which effectively approximate the vaccine as known and used today.

Another important feature to discuss pertains to the length of the descriptions or descriptive units. Standard texts are chunks of texts that occur under specific circumstances and are usually identical provided that the context of occurrence is the same. They can be incomplete sentences, full sentences or full passages that make up paragraphs or longer segments. Like one-word and multiword units, standard texts can also be retrieved from term-banks in much the same format.

Though in terminology multiword units or sentence-like structures can bear the status of terms, full forms of texts can be shortened in an abbreviated form in order to make them more recognizable as term units [32]. Both full forms and abbreviations can be viewed as terminological units when entered in databases. When certain full texts are translated into local languages, – e.g. Acquired Immune Deficiency Syndrome- only the abbreviated forms can be listed as a term because they are mostly transliterated from the abbreviation. Instead of the full text, a term entry in those languages would merely include sida (Baule) or ˙sidaw (Cebaara).

Concerning the change of categories, the Baule verb nian "look" was nominalized as nianlɛ "the action of looking" and combined with moja "blood" to translate the term screening test: moja nianlɛ "looking into the blood". This is also true for the translation of immune system, be wunn n nun sasalɛ "body protection". By the same token, the Bhete translation of screening test could also be improved by using the verb nominalization pattern in the language, which would reduce the lengthiness of the description. The terms ngakpɔ -ʊ 'nglɔ libhï-a-ma ku zɔmö wa yɪlɪ-a 'sidaa nueyi n -ma -wʊɔ yɛ "We look into the blood to check if there is no AIDS virus" could

therefore be ·sida libhïlibhïe (AIDS + root verb libhï "get, find, discover" +SUF "e") "researching AIDS". The Cebaara translation for contraception, "fïcɛ̀jērēgē" (fïcɛ̌ne "pregnancy"+jērē "prevent"+gē (SUF), is also good example of short descriptive compound. This way of dealing with descriptive units helps achieve conciseness and clarity in communication.

6. Conclusion

Term formation was explored in medical translations, where the proliferation of terms is actually an expression of the urgent need to cope with a growing number of concepts. Given that term translation poses various challenges to translators of less widely used languages, this study has explored some models based on language structure and translation principles necessary to deal with terms more effectively. The various analyses made of translation solutions in the selected languages prove that all languages are flexible, and can normally express any idea, provided that one takes into account the cultural environment in which both language and speech communities are rooted.

Two main categories of terms were identified: 1) those which express new concepts totally outside the experience of the target culture – Baule, Bhete, Cebaara, and Dan - were introduced into the language, thus expanding its conceptual fields and vocabulary; and 2) those terms which are known to the target culture and represent important terms because of their frequency or utility, yet suffer from the lack of adequate terms. The translation principles for translating new terms, as studied from the medical literature, are substantially the same, and have been consistently used in the samples to translate specialized terms.

However, linguistic challenges exist, and are usually associated with translation purposes and practice. Awareness of language-specific difficulties requires a deep understanding of both source and target language structures. The need to increase research in this field is thereby expressed, with at least two major advantages. One advantage is that basic literacy programs in local languages become easier to implement, and decisions regarding language planning may find proper guidelines. Another advantage is that transmission of knowledge via the translation of education materials become easy to handle.

Understanding facts about diseases, for instance, in one's mother tongue and using terms one understands best to designate them is an effective way to communicate medical information and to interact with target communities. For instance, medical professionals working in rural areas who are able to understand or speak the language of the community can share medical information with villagers if they have appropriate terms. Madzimbamuto states that from a medical perspective, patients prefer information in their own mother tongue. Therefore, instead of having people understand the often too technical medical terms used on the source language prescriptions, they would greatly benefit from having a number of materials translated and explained in the language of the community.

Linguistic efforts are not isolated from social preoccupations. Linguistic development does not constitute a stumbling block to the desired advancement of modern societies. Rather, all the efforts towards local language development should be considered as a participative endeavor and a sine qua non prerequisite to national development.

The general misconception about minority languages and the subsequent negative attitudes often witnessed among the advocates for 'modernity' and 'progress' are rooted in the strong belief that local languages are not relevant to modern life, nor do they constitute an effective medium for the diffusion of knowledge. Linguists are aware that modern technology requires new terms that foster new ways of looking at the future, and that those terms are not easily found in local languages. They are also aware that the proliferation of new terms in widely used languages did not emerge *de facto* in those languages, but was the outcome of linguistic creativity and the conscientious efforts of the speech communities to develop specialized language in order to talk about current development issues. Draskau emphasizes the relevance of local languages in the following terms:

The sociolinguistics of terminology takes on crucial relevance in the case of less widely-used and revitalized languages [...], whose ultimate survival largely depends not only upon their multi-functionality in a modern world, but upon the recognition of that potential multi-functionality by their speech communities. It is important for such languages to be perceived as powerful and legitimate communication tools, rather than as tradition-bound modes on the brink of atrophy. [3]

Extending the number of fields in which a language can be used is both evidence and an effort to enhance the as yet hardly positive attitude toward these languages, as they can serve as a powerful tool for social development. In terms of research, this discussion has been able to evaluate in any systemic way speakers' reactions and acceptance of these terms. For example, one might ask how compound words are received. Are they more acceptable and better understood than terms developed using other strategies such as transliteration, generic, and descriptive techniques? How are terms formed using relative clauses perceived? Are they easy or difficult to process and understand?

Nevertheless, the study shows that a language's own resources can be used for educating and effectively developing cultures. We can use even its smallest particles, say its DNA, (phonemes and morphemes) to create terms that medical professionals and patients could use to establish life-saving communication; and 3) inappropriate translation and usage of terms, however, may negatively affect people's perception. It is evident that words in mother tongues can have a crucial and lasting impact on society today. As Grenoble and Whaley state, "Language revitalization is not solely [...] a matter of teaching competence in a linguistic code, but a matter of introducing (or reinforcing) language use, improving language attitudes, and bolstering self-confidence" [10].

Conflicts of Interest

The author declares no conflicts of interest.

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