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Between cognition and algorithm, who performs better at translation tasks: human or artificial intelligence?

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Abstract

The process of manual translation of a text from one language to another mostly entails putting it in context and situation such that the semantic, syntactic and stylistic dictates of the source text are well captured in the target text. The systemic synergy in this process ultimately guarantees spontaneous and sustained equivalent dispositions in the readers of both source and target texts. The translation of one-page document depending on the text type, length, cognitive capacity of the translator (human or AI) typically takes between 10 seconds to 45 minutes or more. To a varying extent, according to language pairs and context-dependent texts, empirical demonstrations show that artificial intelligence (AI) translates much faster and more efficiently than a human translator even though the human translation expert may have to intervene in the post-editing of the AI translation output in order to obtain a more acceptable, intelligible and usable translation. However, people take a swipe at machine translation, claiming it lacks congruity and relevance in spite of its milestone in the translation industry. This paper aims to analyse, compare, the speed, quality, and congruity of human/AI translations of a legal text in English-French language pair. Our methodology was analytical and it employed an extract of ECOWAS Court judgement. This original text was run through two free web translations tools (Google TranslateandReverso) and their outputs were compared with the ECOWAS official translation. As a theoretical framework, the study adopted European Commission Translation Quality Assessment models - (audience and purpose, readability and naturalness and usability of the text) combined with Juliane House's (2015) approach. Our findings revealed that unedited translations of legal text done by AI without post-editing measured up with the European Commission Translation Quality Assessment Standard.

Key words: *Algorithm, Cognition, Translation process, Artificial intelligence, Translation quality*

Introduction

Artificial Intelligence (AI) has become a milestone and global trend in problem solving. It has currently crept in, not only to solve human problems but also to render its existence seamless and mitigate against inefficiency. This feat has been evident in science and technology, with the attendant success gradually permeating other fields of human endeavour. The translation industry is not an exception hence the trajectory of machine translation spanning decades of research and culminating in neural machine translation.

The evolution of machine translation from the direct or rule-based, example-based, statistics-based approaches to neural machine translation is indicative of the fact that the intervention of artificial intelligence in daily human activities is to guarantee productivity, efficiency.

Fast and accurate machine translation systems which were hitherto a mirage have become a reality thanks to decades of research in machine translation. Indeed, artificial intelligence (AI) technology in the translation industry has become exceedingly robust and functional in recent years particularly in the English-French language pair. This is because the foremost researchers in machine translation were largely Americans, Canadians and Europeans. These were the exploits of Warren Weaver of the Rockefeller Foundation, a renowned American mathematician and cyber expert, ALPAC (Automatic Language Processing Advisory Committee) with attendant success rate in early programming languages on various fields. For example, systems such as TAUM-Météo and PROLOG were developed for the translation of weather forecast, SYSTRAN, LOGOS, METAL, GETA and EUROTA were essentially used for various operations in European Commission and NATO. From that epoch till today, MT now AI, has dramatically changedthe art of translating from antiquity to modernity.

Machine translation has advanced translation activity leaving the human translator with no other option but to abide with the dictates of technology. With speed and efficiency, natural languages processing, neural networks or neural artificial intelligence and deep learning, are fast overcoming language barriers and easing the tasks of translating.In the process of translation,AI-powered approaches transcend simple grammar, punctuation, and spelling checks. It has been developed to decipher and render with some degree of spontaneity, the elements of the source text, synonym searches, lexical choices, phrase/clauses, sentences, the tone and style of any text in the target language.

This paper presents the human/AI translation quality assessment with a particular emphasis on speed and accuracy in the process of translation. An extract of texts ranging from technical and literary was deployed and translated by human translators and machine with a view to evaluating the

performance of the two.

Speed and Accuracy in Machine Translation

The question of speed and accuracy in machine translation is relative and varies ultimately according to internet accessibility and size of document. Basically, it takes about 10 seconds to translate a one-page document with Google Translate and other free web translation tools. A document that exceeds 5000 words will be spilled over to the next page Google Neural Machine Translation (GNMT) has over the years overcome the pitfalls of the conventional 'end-to-end' method of automated translation from the phrase-based translation systems to "very large-scale datasets". Research is ongoing to create models for the translation of rare words in sentence input during inference computations and simulations (Yonghui Wu, Mike Schuster, Zhifeng Chen, 2016).

As a corollary to the above assertion, colossal efforts and investments have been made on machine translation/neural machine translation with a view to achieving impressive translation quality, speed and accuracy. This milestone has been brought to bare on the state- of- the -art "autoregressive" and ''non-autoregressive" models with ''encoders" and ''decoders" of varied depths. In discussing measures in neural machine translation, Jungo Kasai, Nikolaos Pappas, Hao Peng, James Cross, Noah A. Smith, (2021) affirm in their research thus:

> One major benefit of NAR models over AR ones is their ability to generate text in parallel. Current research on measuring speed has focused solely on the setting of translating one sentence at a time where full parallelization is trivial with a single GPU. However, we argue that this speed measure is not realistic in some scenarios because the GPU memory is finite and the GPU unit in such a setting is underused. To address this issue, we use two translation speed metrics to measure inference speed:
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> • S1 measures speed when translating one sentence at a time. This metric is used in standard practice and aligns with applications like instantaneous machine translation that translates text input from users immediately.
>
> • Smax measures speed when translating in mini-batches as

large as the hardware allows. This corresponds to scenarios where one wants to translate a large amount of text given in advance. For instance, such large-batch machine translation is implemented in the Google cloud service (2).

Translation as a Process Between Algorithm and Cognition

The art of rendering a text from one language with relative representation of its contents and features in the target language evidently requires a process. This process is more often the cognitive capacity of the translator to deliver an acceptable and usable translation. This assertion reflects the import of translation studies that places premium on the linguistic and extra-linguistic dictates of a text. Every text designated for translation is a product of the society – culture/tradition, sociology, anthropology, cliché/nuance (extra linguistics features of translation) etc. These elements present in the source text must not be left out in the target text if we want to guarantee equivalent reactions from TT reader. As Arnt Lykke Jakobsen(2017) puts it:

> Translation process research (TPR) is a branch of translation studies (TS) that works within a behavioral-cognitive experimental methodological paradigm, where essential data about the translation process stem from translators' keyboard activity and eye movements. … TPR continues to focus on exploring what happens in a translator's mind when situated critically between a source text (ST) and having to interact with (at least) a screen and a keyboard in the environment to produce a target text (TT). The focus continues to be on how a translator cognitively interacts with an external ST, an external TT, and a writing tool, but casts its net wider to be able to take more account of individual, emotional, interactional, technological, and institutional factors (1).

Qinqin Wu and Mingze Su (2022), in their spatial structure of translation, presents translation as a process where "meaning and culture transform from one language to another through the interaction of at least two ecosystems of the source language and the target language." Kushnina's model of spatial and ecological space is reiterated with the classification of translation process into the following fields: author's field (presuppositions and intentions of the author), translator's field (decode and reconstruct the text), audience field (backgroundknowledgeoutsideof language and is related to context), the

content field (explicit meaning of the text) the energyfield (Post-discourse), and the communication field (Intertextuality). By this illustration, a symbiotic relationship subsists among these fields to ensure mutual communication and understanding. Besides, each field has its intrinsic meaning, function and value.
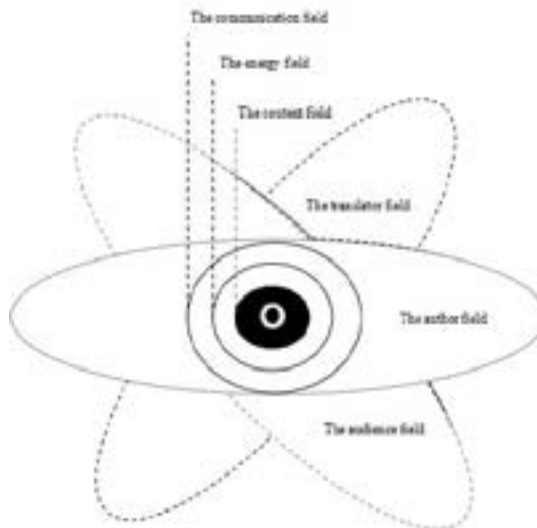
Figure1. Thespatial structureoftranslation(Liu&Pan, 2020)

Danica Seleskovitch's (1970) famous interpretative theory of translationat ESIT School in Paris is hinged on three basic requisite process of translation namely "la compréhension, la déverbalisation and la réverbalisation". The first process, *la compréhension*, which is the fulcrum of the process, requires a profound knowledge of the linguistic and extra-linguistic imperatives of the source and target texts, an encyclopedic knowledge as well as the cultural understanding of the target reader. As for the second process, *la déverbalisation,* emphasis is on the translator to be wary of a literal rendering of the source text and valorize its idea or message and not words or sentences. The third process, *la réverbalisation* is the reconstruction or restitution of the contextual and situational meanings. This for example, will avert a literal rendering of the meanings of a cinema-based parlance like **Déconseillé au 16** and **Retrouvez la série-drame** *Village Headmaster*as **advised against 16** or **find the drama series** *Village Headmaster*instead of **this film is rated 16** and *Village Headmaster* **drama series coming soon**.

Machine translation is the automatic process of transposing a text from one language to another retaining the syntactic and semantic features

of the source text in the target text. This process involves the use of algorithm design for the translation accuracy and correction of syntactic and semantic structures even though it is sometimes fraught with weak logic and lows accuracy in the output. According to Lu Yang, Da Chen, Wenxue Wu (2018):

> Machine translation refers to the process of automatically translating a natural language into another natural language with the same meaning. Machine translation is an important issue in the field of artificial intelligence. It is one of the main tasks in natural language processing. It is closely related to the centrally theoretical topics of syntactic analysis, semantic understanding and natural language generation. Machine translation is one of the most beautiful ideas at the beginning of the birth of the computer and even the whole of the whole human being. It is becoming more and more alive with the development of the world economy and the urgent need of cultural exchange. Machine Translation has gone through a tortuous road of development… (73).

It is increasingly becoming an acceptable reality that the conventional manual translation system has been overwhelmed with the growing demand for speed, accuracy, quality, globalexchanges, real-time /large volume translations and clientele's deadlines. Evidently, the human translation has always been unable to meet these demands and tasks hence the advent of machine translation.

The automation of translation from one language to another is also a process as it is obtainable in the conventional manual translation system. While the human translation activity fundamentally deploys the cognitive capacities of the translator to deliver an acceptable and usable translation, machine translation uses algorithm system to translate with speed, accuracy, efficiency and somewhat intelligibility. Although machine translation is often a subject of criticism occasioned by lexico-semantic and syntactic errors and inconsistencies, it is important to point out that human translation too is not immune from errors. There is a human intervention for the post-editing of machine translation fraught with errors. Beyond that, the reviser also reviews manual translations particularly if it is a crowd-sourcing job. Below are the various stages of machine translation in the process of translating simple and complex sentence structures:
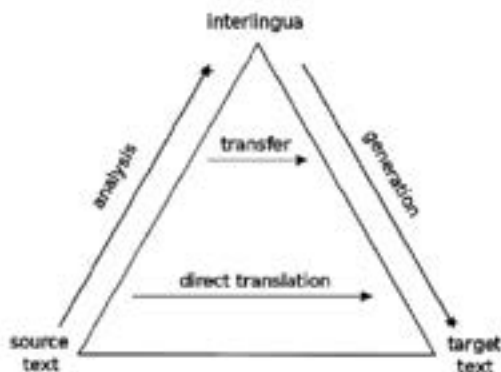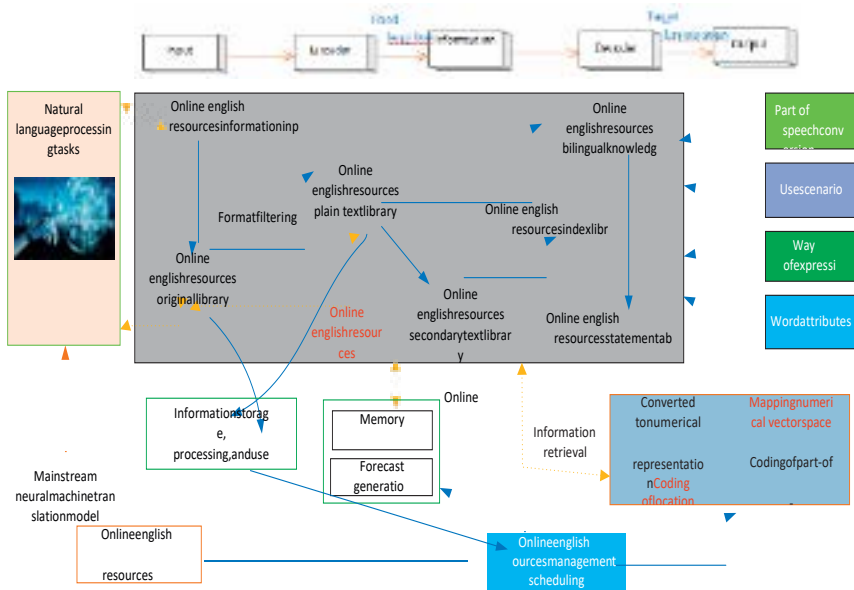
Figure 1.1: Relationship between direct and indirect translations www.researchgate.netprofile (Budditha Hettige)

Figure 1.2: Architecture of a rule-based machine translation system

www.researchgate.netprofile (Budditha Hettige)

Figure 1: Schematic diagram of online English resourcei nformation processing for neural machinet ranslation.
https://www.researchgate.net/publication/350716571_Translation_Mechanism_of_Neural_Machine_Algorithm_for_Online_English_Resources

It is important to point out that these stages are evolutionary and systemic depending largely on the size of texts to run through the automation process of translation from the source language to target language. Besides, this process is serial and sequential simulating the human cognitive capacity and thought process to translate simple complex, direct, indirect, overt, covert texts.

Trajectory of Machine Translation

The era of machine translation MT began after the hitherto objectives of creation – electronic numerical integrator, language decrypt for war espionage and weather forecast. From then on, it has become research endeavours in the field of natural language processing (NLP).

There are two broad methods/approaches of machine translation: rule-based machine methods and corpus-based methods. The rule-based machine translation methods held sway from inception till the 1990s to translate texts from one language to another using bilingual dictionaries and a set of

rules. The inadequacies of RBMT were attributed to the inability to effect multilingual translation and this opened up further research culminating into corpus-based methods.

The corpus-based methods became dominant after the 2000s. There are three corpus-based MT methods: example-based machine translation (EBMT), statistical machine translation (SMT), and neural machine translation (NMT), Haifeng Wang and Kenneth Ward Church, (2022). The idea of corpus-based method is to generate bilingual corpora that will basically have a recourse to a large amount of data to translate multilingual texts instead of relying on rules.

Neural Machine Translation NMT through Deep Learning is an advancement of statistical machine translation designed to correct the deficiencies of the conventional phrase-based translation system. Yonghui Wu, Mike Schuster et al. (2016:1) refer to Neural Machine Translation (NMT) as an end-to-end learning approach for automated translation, with the potential to overcome many of the weaknesses of conventional phrase-based translation systems

Neural Machine Translation is an advanced technology created by Google in 2016 to simulate human cognitive capacities, language behavioral patterns and functions in human's brain. Google Neural Machine Translation (GNMT) is a model of Artificial Intelligence (AI) currently in vogue in the translation industry, which replaces the Statistical Machine Translation approach. It uses artificial neural network to increase accuracy, fluidity, using encoder and decoder options. Google Neural Machine Translation with the aid Deep Learning and Big Data, is capable of translating texts from one language to another through three (3) main methods: the first processes the source text and extracts the meaning, the second places premium on the syntax while the third approach treats the contextual value of the message to reflect a global understanding and vision of the texts translated.

Standard Translation Quality Assessment Parameters according to Juliane House and the European CommissionDirectorate for Translation

We have adopted as theoretical framework for our research, the translation quality assessment guidelines in the **European CommissionDirectorate for Translation** and **Juliane House's** models to evaluate the translation quality of human translations and free web translation tools (Google Translate and Reverso). We have used excerpts of a legal text (ECOWAS Court Judgement) as our corpus. The import of the study is to determine the speed, quality, congruity of human/machine translations. These parallel texts were run on

two free web translations tools (Google Translate, Reverso) and their outputs were compared and contrasted with ECOWAS standard translations.

Translation quality assessment is a topical issue in the field of translation studies. The thrust of the research on this domain is to ultimately establish standard guidelines, global best practices and control to determine the quality of translations. Outputs of human and machine translations have been adopted as conventional modes for inter-communication and it becomes expedient that they are subject to quality control for acceptability and usability. Translation quality assessment is pivotal in determining the contextual and situational value of translation.

In Juliane House's (2015:8) approaches to translation quality assessment, three issues are raised:

    i. The relationship between the original text and its translations;
    ii. The relationship between the original text (or features of it) and how it is perceived by the author, the translator and the recipient(s);
    iii. The consequences which views about these relationships have when one wants to distinguish a translation from other types of multilingual text production.

The synopsis of House's translation quality assessment prescription revolves around the equivalence of the source text message in the target language. This is measured by spontaneous equivalent reactions or behavioral gesture of readers of both the source text and the target text.

Among other guidelines and requirements, below are the extracts for the translation quality guidelines established by the Directorates ABCD - **Translation Quality Advisers Brussels/Luxembourg,** (2015:13):

- **audience and purpose**: – who will use and read the text, why, when and through what medium (paper, web page, mobile media)? What is the reader supposed to think or do?

- **readability and naturalness**: –

- the target text should read like an original in the target language and comply with its text-type conventions; the impact in the target language is a key criterion for correct translation;

– ask yourself how you would express the idea in your mother tongue; try where possible to use 'everyday language' and avoid jargon – a clear and fluent document is more likely to be read, less likely to be misunderstood and hence more effective;

- **usability**:

– 'for press releases, fact sheets ("memos") and OP-EDs, it is intended that the language register to be used by translators is one which would allow the immediate publication of the text in the national

press, without further processing'

– slogans, 'brand names' and examples in leaflets, posters or brochures may need (cultural) adaptation.

Outputs of the Translations of Google and Reverso including Comments based on the Parameters of European Commission Directorate for translation and Juliane House's Models

1. **ECOWAS**: IN THE COURT OF JUSTICE OF THE ECONOMIC COMMUNITY OF WEST AFRICAN STATES (ECOWAS) In the Case SUNDAY CHARLES UGWUABA v. REPUBLIC OF SENEGAL Application No. ECW/CCJ/APP/27/17/SUPPJudgment No. ECW/CCJ/JUD/16/22 JUDGMENT ACCRA On March 28, 2022

   CEDEAO : COUR DE JUSTICE DE LA COMMUNAUTE ECONOMIQUE DES ETATS DE L'AFRIQUE DE L'OUEST (CEDEAO) Dans l´Affaire SUNDAY CHARLES UGWUABA c. ÉTAT DU SÉNÉGAL Affaire N° ECW/CCJ/APP/27/17/SUPP.ARRÊT N° ECW/CCJ/JUD/16/22 ARRÊT ACCRA Le 28 mars 2022

   GOOGLE TRANSLATE : DEVANT LA COUR DE JUSTICE DE LA COMMUNAUTÉ ÉCONOMIQUE DES ÉTATS DE L'AFRIQUE DE L'OUEST (CEDEAO) Dans l'Affaire DIMANCHE CHARLES UGWUABA c. RÉPUBLIQUE DU SÉNÉGAL Requête n° ECW/CCJ/APP/27/17/SUPPJugement n° ECW/CCJ/JUD /16/22 JUGEMENT ACCRA Le 28 mars 2022

   REVERSO : DEVANT LA COUR DE JUSTICE DE LA COMMUNAUTÉ ÉCONOMIQUE DES ÉTATS DE L'AFRIQUE DE L'OUEST (CEDEAO) Dans l'affaire SUNDAY CHARLES UGWUABA c. REPUBLIQUE DU SÉNÉGAL Requête No. ECW/CCJ/APP/27/17/SUPPJudgment No. ECW/CCJ/JUD/16/22 ARRÊT ACCRA Le 28 mars 2022.

2. **ECOWAS**: Application No. ECW/CCJ/APP/27/17/SUPP. JUDGMENT No. ECW/CCJ/JUD/16/2022 BETWEEN: SUNDAY CHARLES UGWUABA .... APPLICANT And REPUBLIC

OF SENEGAL ……………...…… RESPONDENTCOMPOSITION OF THE COURT Hon. Justice Dupe ATOKI………………..….. Presiding Hon. Justice Justice Keikura BANGURA …….. Member Hon. Justice Januária T. S. Moreira COSTA…. Member/Rapporteur Judge ASSISTED BY: Aboubacar DIAKITE……………………………………….Registrar 3 I. REPRESENTATION OF PARTIES Femi Falana, SAN ……………. ……………....Counsel for the Applicant Maitre Papa Moussa Felix Sow……………....Counsel for the Respondent

CEDEAO: Application No. ECW/CCJ/APP/27/17/ SUPP. JUDGMENT No. ECW/CCJ/JUD/16/2022 BETWEEN: SUNDAY CHARLES UGWUABA …………….. APPLICANT And REPUBLIC OF SENEGAL ……………...…… RESPONDENTCOMPOSITION OF THE COURT Hon. Justice Dupe ATOKI………………..….. Presiding Hon. Justice Justice Keikura BANGURA …….. Member Hon. Justice Januária T. S. Moreira COSTA…. Member/Rapporteur Judge ASSISTED BY: Aboubacar D I A K I T E … … … … … … … … … … … … … … … … . Registrar3 I. REPRESENTATION OF PARTIES Femi Falana, SAN ……………………………....Counsel for the Applicant Maitre Papa Moussa Felix Sow……………....Counsel for the Respondent

GOOGLE TRANSLATE : Requête n° ECW/CCJ/ APP/27/17/SUPP. JUGEMENT N° ECW/CCJ/JUD/16/2022 ENTRE : DIMANCHE CHARLES UGWUABA …………….. REQUÉRANT Et RÉPUBLIQUE DU SÉNÉGAL ……………...…… DEFENDEURS COMPOSITION DE LA COUR L'hon. Juge Dupe ATOKI………………..….. Président Hon. Justice Justice Keikura BANGURA …….. Membre Hon. Juge Januária T. S. Moreira COSTA…. Membre/Juge rapporteur ASSISTE DE : Aboubacar DIAKITE……………………………………….Greffier3 I. REPRÉSENTATION DES PARTIES Femi Falana, SAN ……. …………………....Conseil du Requérant MaîtrePapa Moussa Félix Sow………… ………Avocat du défendeur

REVERSO: Demande   no   ECW/CCJ/APP/27/17/

SUPP. JUGEMENT no ECW/CCJ/JUD/16/2022 ENTRE : DIMANCHE CHARLES UGWUABA .... DEMANDEUR Et RÉPUBLIQUE DU SÉNÉGAL …………..…. COMPOSITION DE L'INTIMÉ DE LA COUR L'honorable juge Dupe ATOKI……………..….. Juge président Keikura BANGURA …….. Juge Januária T. S. Moreira COSTA…. Membre/Rapporteur Juge ASSISTÉ DE : Aboubacar D I A K I T E …………………………………….… Registraire 3 I. REPRÉSENTATION DES PARTIES Femi Falana, SAN .... Conseil du Demandeur MaîtrePapa Moussa Felix Sow..................... Conseil du défendeur

3. **ECOWAS**: COURT'S JUDGMENT
   CEDEAO:ARRÊT
   GOOGLE TRANSLATE:JUGEMENT DE LA COUR
   REVERSO : ARRÊT DE LA COUR

4. **ECOWAS** : IV. INTRODUCTION 4. In the instant case, the Applicant prayed the Court to extend the time limit within which he can apply for an additional judgment in Case No. ECW/CCJ/APP/27/17, between SUNDAY CHARLES UGWUABA vs. REPUBLIC OF SENEGAL, in which a judgment was rendered on June 28, 2019, and praying the Court to supplement the judgment rendered in the aforementioned proceedings by mandating the Respondent to pay the Applicant general compensation for violation of the fundamental right to freedom of movement of persons, goods and services, taking into 4 consideration that even though the Court found that the Applicant's right was violated by the Respondent, no compensation was awarded in his favor.

   CEDEAO: IV. INTRODUCTION 4. En l´espèce, le requérant a demandé à la Cour de proroger le délai dans lequel il peut demander un arrêt complémentaire sur la réparation dans l'Affaire N° ECW/CCJ/APP/27/17, entre SUNDAY CHARLES UGWUABA et LA RÉPUBLIQUE DU SÉNÉGAL, dans laquelle un arrêt a été rendu le 28 juin 2019. Le requérant demande à la Cour de compléter l'arrêt rendu dans l'affaire précitée, en condamnant le défendeur

à lui verser une compensation générale, pour violation du droit fondamental à la liberté de circulation des personnes, des biens et des services, car bien que la Cour ait conclu que le droit du requérant avait été violé par le défendeur, aucune indemnisation ne lui a été accordée.

GOOGLE TRANSLATE : IV. INTRODUCTION 4. En l'espèce, le Requérant a prié la Cour de prolonger le délai dans lequel il peut demander un jugement supplémentaire dans l'affaire n° ECW/CCJ/APP/27/17, entre DIMANCHE CHARLES UGWUABA c. RÉPUBLIQUE DU SÉNÉGAL , dans lequel un jugement a été rendu le 28 juin 2019, et priant la Cour de compléter le jugement rendu dans la procédure susmentionnée en mandatant le Défendeur de verser au Requérant une indemnisation générale pour violation du droit fondamental à la liberté de circulation des personnes, des biens et services, en tenant compte du fait que même si la Cour a estimé que le droit du Requérant avait été violé par le Défendeur, aucune indemnisation n'a été accordée en sa faveur.

REVERSO : IV. INTRODUCTION 4. En l'espèce, le demandeur a prié la Cour de proroger le délai dans lequel il peut demander un jugement supplémentaire dans l'affaire no ECW/CCJ/APP/27/17, entre SUNDAY CHARLES UGWUABA et REPUBLIC OF SENEGAL, dans lequel un jugement a été rendu le 28 juin, 2019, et prie la Cour de compléter le jugement rendu dans la procédure susmentionnée en mandatant l'intimé pour verser au demandeur une indemnité générale pour violation du droit fondamental à la libre circulation des personnes, 4 considérant que même si la Cour a conclu que le défendeur avait violé le droit du demandeur, aucune indemnité n'a été accordée en sa faveur.

5. ECOWAS : PROCEEDING BEFORE THE COURT

The application initiating proceedings (Doc 1) was lodged at the Registry of this Court on February 13, 2020 and served on the Respondent State on March 10, 2020.

CEDEAO: PROCÉDURE DEVANT LA COUR

La requête introductive d´instance (Doc 1) a été enregistrée au Greffe de la Cour le 13 février 2020 et notifiée à l'Etat défendeur le 10 mars 2020.

GOOGLE TRANSLATE : PROCÉDURE DEVANT LA COUR

La requête introductive d'instance (Doc 1) a été déposée au Greffe de cette Cour le 13 février   2020 et signifiée à l'Etat défendeur le 10 mars 2020.

REVERSO : PROCÉDURE DEVANT LA COUR

 La demande introductive d'instance (doc 1) a été déposée au greffe de la Cour le 13 février 2020 et signifiée à l'État défendeur le 10 mars 2020.

6. **ECOWAS:** On October 5, 2021 the Applicant filed an application to support its original application (Affidavit in Support of Motion on Notice) (doc. 3) which was served on the Respondent on November 29, 2021.

CEDEAO: Le 5 octobre 2021, le requérant a déposé une demande à l'appui de sa requête introductive d´instance (Affidavit in Support of Motion on Notice) (doc. 3), qui a été notifiée au défendeur le 29 novembre 2021.

GOOGLE TRANSLATE : Le 5 octobre 2021, le demandeur a déposé une demande à l'appui de   sa demande initiale (Affidavit à l'appui de la requête sur avis) (doc. 3) qui a été signifiée au défendeur le 29 novembre 2021.

REVERSO : Le 5 octobre 2021, le demandeur a déposé une demande à l'appui de sa demande originale (Affidavit in Support of Motion on Notice) (doc. 3) qui a été signifiée au défendeur le 29 novembre 2021.

7. **ECOWAS :** The Court granted the Applicant's representative the floor to make his submissions on the merits of the Supplementary Judgment application, which was adjourned because it was observed that the Applicant's counsel 5 appeared at the session in a moving vehicle which led the hearing to adjourned to November 30, 2021.

CEDEAO: La Cour a donné la parole au représentant du requérant pour qu´il présente ses observations sur le fond de la demande d´arrêt complémentaire sur la réparation. La Cour a noté que le conseil du requérant a assisté à la séance alors qu´il était en véhicule et lui a adressé un avertissement ferme pour qu'il n´assiste plus à l´audience de la Cour dans un véhicule en mouvement. Au vu de ces éléments, l'affaire a été ajournée au 30 novembre 2021, pour la poursuite de l'audience.

GOOGLE TRANSLATE : La Cour a accordé au représentant du demandeur la parole pour présenter ses observations sur le fond de la demande de jugement complémentaire, qui a été ajournée car il a été observé que le conseil du demandeur 5 s'était présenté à l'audience dans un véhicule en mouvement, ce qui a conduit l'audience à ajourner au 30 novembre 2021.

REVERSO : La Cour a accordé au représentant du demandeur la parole pour présenter ses arguments sur le fond de la demande de jugement supplémentaire, qui a été ajournée parce qu'il a été observé que l'avocat du demandeur a comparu à la séance dans un véhicule en mouvement, ce qui a mené à l'ajournement de l'audience au 30 novembre 2021.

Comments

Using the Juliane House's translation quality and the European Commission's guidelines and controls for quality translation, we note as follows:

1. It took Google Translate and Reverso less than 5 seconds to translate a page of a judicial text containing pertinent legal parlance. It could have taken about 45 minutes or more for a manual translation.
2. The machine translations are "raw" i.e. they are unedited. The

fidelity ratings of the translations are high although there could be some encumbrances from lexical impertinence and variation.

3. The machine translations are clear, comprehensible and intelligiblewith containing context-based legal terms that are meaningful to the target language users.

4. A cursory look at the full translations (ECOWAS/Machine) shows that the pertinent, acceptable and usable judicial terms in court system permeates all the texts.

5. The language tone and structure appear somewhat similar in all translations hence equivalent reactions are plausible due to sustained contextual and situational rendering of the legal terms.

6. Mistranslation of text (lexico-semantic, syntactic and stylistic imperatives) did not occur in the machine translations to impair or distort meanings. But that does not rule out the need for post-editing.

7. Although, the outputs of the translation are "raw", with a minor post-editing of the machine translations (Google Translate and Reverso), the final translations can be acceptable and usable as a formal judicial document.

8. By our assessment, Google Translate and Reverso translations of the court document meet the standard of the **European Commission's Directorate for Translation: audience and purpose, readability and naturalness and usability**.

9. Depending on language pair and text type, quality translation can be achieved by artificial intelligence.

10. AI translates much faster and more efficiently than human translators although the latter finally plays the role of a reviser in order to obtain ultimately quality and acceptable translations.

Conclusion

This paper has attempted to exhibit the impact of artificial intelligence in all spheres of human activities including translation studies. Artificial intelligence (AI) has surreptitiously crept into our daily lives to play problem-solving roles and to guaranty productivity and efficiency.

Translation industry has immensely benefitted from the state-of-the-art research which will make translation of documents fast and accurate. The trajectory of machine translation has been discussed tracing its origin from the post-World War II era spanning 1970s, 80s, 90s till the present day with huge investments in machine translation and the resultant giant strides and accomplishments. However, there are still problems of mismatches and

mistranslations by the free-web translation tools hence the misgivings about the performance.

The paper has discussed the translation quality assessment by way of comparing and analyzing human/machine translation of a parallel text notably a judicial text. Translations of ECOWAS Court judgements using **Google Translate** and **Reverso** have been compared with the official translations to determine the fidelity of the translation tools to the original text.. As criteria for assessment, the paper adopted the metrics of the European Commission Directorate of Translation. Our findings showed that Google Translate and Reverso performed optimally in spite of some insignificant lexical inadequacies, which really did not impair the meanings of text or distort its fluidity and accuracy.

Lastly, it becomes expedient for human translator to embrace the application of artificial intelligence (AI) to avoid professional "blacklisting". As Thomas Rasaq (2022)succinctly puts it:

> The argument about artificial intelligence or machine replacing human is subjective, relative and plausible. Basically, with human intervention, machine is created to solve problems, ease tedious and monotonous tasks. Evidently, artificial intelligence cannot replace human translators but it will replace translators who are not technology-inclined, savvy, contemporary and encyclopedic in their profession (174).

A modern translator should be equipped with the knowledge of AI to optimize efficiency. With this inevitable efforts, a modern translator will be able to sustain his/her relevance in the huge translation markets.

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