

Evaluating AI Translations of Algerian Songs Samples through Objective Criteria: A Comparative Study of Some NMTs and LMLs Results

تقييم ترجمات الذكاء الاصطناعي لنماذج من الأغاني الجزائرية من خلال معايير موضوعية:

دراسة مقارنة لنتائج بعض أدوات الترجمة الآلية العصبية والنماذج اللغوية الكبيرة

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Received: 16/05/2026

Accepted: 22/07/2026

Published: 31/08/2026

Abstract:

In the present paper, we try to use objective criteria established by experts in evaluating the ability of AI in dealing with complex translation tasks. To do that, we chose two samples from Algerian songs whose translations pose serious challenges in terms of style, culture, meaning and rhyme, especially since they are written in the Algerian dialect and carry socio-religious symbols (song 1) and cultural heritage symbols (song 2). Our objectives are to show the extent to which we can entrust such a complex task to AI and to find out which type of MT tools is more suitable for translating songs. The results revealed that NMTs and LMLs (GenAIs) follow different approaches in a way that make the second type more appropriate for songs translations. However, AI still needs human assistance through a post-editing task in order to avoid mistakes that can sometimes be critical, and to refine the results.

Keywords: AI Translation; NMTs; LMLs (GenAIs); Objective Evaluation; Algerian Songs Translations.

ملخص:

نحاول في هذا البحث الاعتماد على معايير موضوعية وضعتها بعض المنظرون واستعمالها في تقييم قدرة الذكاء الاصطناعي على التعامل مع ترجمة النصوص المعقدة. وللبحث في هذه الاشكالية، اخترنا أنموذجين من الأغاني الجزائرية تشكل ترجمتهما تحديا على مستوى الأسلوب والشحنة الثقافية والمعنى والإيقاع خاصة وأتحداهما مكتوبتان باللهجة الجزائرية وتحملان رموزا اجتماعية دينية (الأغنية الأولى) وتراثية ثقافية (الأغنية الثانية). ويتمثل هدفنا الرئيسي في الكشف عن مدى إمكانية الاعتماد على التكنولوجيا الحديثة في إنجاز مهام في مثل هذا التعقيد، وكذا معرفة أي من أدوات الترجمة الآلية المعاصرة هو الأنسب لهذا النوع من النصوص. وقد أظهرت النتائج أنَّ أنظمة الترجمة الآلية العصبية والنماذج اللغوية الكبيرة (الذكاء الاصطناعي التوليدي) تتبع مقاربات مختلفة، حيث تبين لنا أنَّ النوع الثاني هو الأنسب لترجمة الأغاني. لكن الذكاء الاصطناعي لا يزال بحاجة إلى تدخل بشري تتمثل مهمته الجديدة في المراجعة اللاحقة والتصحيح، وذلك بهدف تفادي الأخطاء التي قد تكون أحيانا غير مقبولة بالإضافة إلى تحسين جودة الترجمات المقدمة.

كلمات مفتاحية: الترجمة بالذكاء الاصطناعي، الترجمة الآلية العصبية، النماذج اللغوية الكبيرة (الذكاء الاصطناعي التوليدي)، التقييم الموضوعي للترجمة، ترجمة الأغاني الجزائرية.

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1. INTRODUCTION

Translation is a delicate task that involves many competences, and songs are one of the most sensitive materials for a translator because of the numerous issues they may raise. But in the same time, our era is noticing the development of new Artificial Intelligence (AI) tools that, a few years earlier, were rather unthinkable for many of us.

As we all know, technology has revolutionized the field of Translation and continues to transform it every single day. The first manifestation of integrating technological tools in interlingual transfer was with early MT (Machine Translation) systems that were first based on linguistic rules, then with PBSMT (Phrase-based statistical machine translation). But today, things are going faster and easier with the development of Large Model Language (LML) also called GenAI tools and Neural Machine Translation (NMT) tools.

Our interest in this subject was triggered by a question that had been nagging us: since AI can do practically everything and since we increasingly hear that we can now easily do without translators who have become ‘unnecessary’, is this new technology really capable of dealing with all the problems of translation? Can it really overcome all the obstacles and meet all the challenges?

To verify this and to evaluate to which extent the promised goals are really met, we chose to translate two Algerian songs, using two NMT tools (Google Translate and DeepL) and two LML tools (Chat GPT and DeepSeek). After that, we will discuss the results by comparing the translations with the source text, and by evaluating them according to some objective criteria set by experts in terms of literary translation; because songs belong to this category, and there’s no specific theory for songs translation.

2. Translation Evaluation

Translation evaluation involves assessing the quality of a translated text based on specific criteria (accuracy, fluency, consistency) and, in its broader academic form, conducting "translation criticism"—the systematic analysis of a translation's strengths, weaknesses, and cultural impacts.

One of the most controversial issues in Translation Studies is: Translation evaluation and criticism. The latter has long been addressed using subjective criteria. Indeed, unlike the translation of scientific and technical texts, the appreciation and evaluation of a translated literary text was often based on the taste of the evaluator or target audience, their orientations, convictions and expectations. In order to understand this, it is important to go through the major stages in the evolution of "translation criticism" notion in general.

2.1 Emergence of Objective Criteria in Translation Criticism

The history of translation’s evaluation is undoubtedly the same as that of Translation Studies itself; since all studies, approaches, and theories have had as main objective the establishment of criteria for obtaining a ‘good’ translation or evaluating

its quality. And if we review the discussions surrounding this topic, we find that most of the ideas were, to some extent, similar in substance, as they generally revolve around two axes: literal or free translation. However, each has used a 'special' taxonomy. Nevertheless, this does not preclude them all from contributing to advancing the debate and refining the methods and criteria of evaluation.

It was not until the last third of the 20th century that more modern and elaborate methods emerged, attempting to move the notion of criticism from subjectivity to objectivity.

One of the most important works in this sense is the Katharina Reiss's Translation Criticism: The Potentials and Limitations (originally published in German in 1971). The German scholar proposed that the translation method should be determined by the primary function and type of the source text. Hence, we can classify source texts as following:

Informative texts like technical manuals focusing on content and information; so their translator should transmit faithfully this content.

Expressive texts like poetry and novels focusing on aesthetic; so their translator has to reproduce the artistic effect.

Operative texts like adverts, slogans and political speeches focusing on appealing to the reader. Their translation requires eliciting the same response from the target audience.

Audio-medial texts, like films that blend text with image and sound and whose translation has to take all of these aspects into account.

Through this functional model, Reiss attempted to establish objective and constructive criteria that would improve translations instead of simply pointing out their errors. Defining the purpose (*skopos*) of the translation of the given text guides the translator and allows him to make a decision.

Another contribution that cannot be ignored is that of Juliane House (1997: 66) who developed a rigorous method for evaluating translation quality based on a comparative analysis of the original and target texts. House distinguished between overt and covert translations. The first one is a translation that clearly maintains a connection to the source text and does not attempt to act as a second original. It is often used for texts linked to a specific culture or period; while the second type aims to be assimilated by the target culture and does not refer to the source text. It is used for texts that have universal relevance (advertising, manuals, magazine articles,...etc.).

Another interesting point is that of Antoine Berman (1995: 2-4) who believes that translation must become a critical and commented-upon act, going beyond mere technical practice. He lays the foundations for an ethical and productive approach to translation, advocating fidelity to the otherness of the original work. Berman sharply criticizes "ethnocentric translation," which erases the strangeness of the source text to naturalize it, and proposes a method of a detailed comparative analysis, studying the inevitable "distortions" (the [distorting tendencies] of translation). This researcher

provided a systematic methodology for literary translation criticism that moved away from prescriptive "error-spotting" toward a "productive criticism" that reveals the "translation project" of the translator and its impact on the target literature. He emphasized the ethical responsibility of acknowledging foreign cultural differences. Starting from a similar point of view, Lawrence Venuti encouraged the invisibility of the translator and "foreignizing" strategies to counter domesticating tendencies. Since we are concentrating on songs translation, we will now examine more closely the approaches and principles applicable to this type of texts. We will also try to find other works that have exclusively focused on it.

On his 'On the Different Methods of Translating', Friedrich Schleiermacher (1813) saw that only translated literary texts deserve scientific research and criticism. In fact, upon deeper reflection, it is true that scientific and technical texts do not really pose problems in terms of how to translate them "well." Literary texts, on the other hand, present many obstacles. However, we believe that the notion of "literary" does not encompass all texts that raise translational challenges. That's why; we see that except scientific and technical texts, discussions around translation criteria are legitimate. Schleiermacher treated translation as an interpretive act combining linguistic (grammatical) and creative (psychological) work to understand the original author's intent; and as a means to expand the target language (German, in his context) and its literature by bringing in new perspectives. Thus, he advised to avoid hybrids (Blendlinge) that mix the foreign and the familiar unnaturally, advocating for a faithful rendering that honors the original's structure, tone, and cultural background.

A Soviet researcher called P. Topor (2000) went further in his monograph entitled "Translation in Comparative Literary Studies" by calling for establishing universally recognized evaluation standards in order to combat all forms of subjectivity, and to overcome the stagnation that this field of study is experiencing. For him, translation literature constitutes a unique literary form shaped by the translator's creative agency and cultural context.

A Russian researcher named Irina Alexeeva (2021: 92) attempted to combine the various criteria proposed by different modern theorists on what she called integrative model for assessing the quality of the literary translation. This model is composed of six features: the completeness of the aesthetic information; masterful command of the literary norm of the native language; the degree of rendering the text wholeness and the systemic features of the text unity ; the degree of impact of the translator's individual style on the translated text; the translation of the diachronic distance between the time of text creation and text translation; and finally the consideration of the social demand for the completeness of cultural and aesthetic information in the translation.

Far from being exhaustive, this overview aims to trace the major turning points in the evolution of objective evaluation criteria in translation. We can therefore see that the conditions for success have shifted from the eternal debate between the concepts of

literalism and those of freedom, elaborated under different, relatively synonymous names; to the integration of new aspects such as: the *skopos* of the process, the ethics of the translator, and the various cultural implications,...etc.

2.2 Criteria for Evaluating Songs Translation

The text of a song, commonly called: lyrics, can be classified according to different patterns. But what interest us here, is to precise that they belong to literary texts since they constitute a type of poetry. Firstly, there's the structural element of poetry that enables song lyrics to be incorporated into literary pieces. Frequently, song lyrics contain a rhythm and rhyme, provide the artistic appeal we anticipate from poetry, and are typically rich in emotions. Song lyrics usually possess a specific purpose, frequently containing figurative expressions, and often encompass multiple layers of significance. Another common point is the narrative aspect that can extend to a complete story. For example, concept albums often complete a journey from the initial track to the final one, and they frequently explore specific narratives and themes, similar to many literary works.

Some scholars, like K. Reiss, use a different categorization of texts typology, as we mentioned above. According to their categorization, the category underlying songs texts is that of: aesthetic texts that Reiss defines as being a type of text in which the author makes use of formal elements, whether consciously or not, for a specific esthetic effect (Reiss, 2014: 31-32).

This text type can be referred to by the two following terms: "form-focused text", which is a term used in the English translation of Reiss's book (Reiss, 2014: 27), and "expressive text", which is a term used by Christiane Nord (1988: 36). It is also important to note that lyrics can also be included in the category of audio-medial texts or even that (for certain songs that encourage the listener to act and react, as is the case with politically engaged texts) of operative texts. But the biggest challenges facing the translator, in our opinion (at least for the type of songs that make up our corpus), are more related to aesthetic texts. Let's now discuss the implications in the translation process of the aspects highlighted by Low (2003):

-Rhythm and rhyme: In addition to the song's music and melody, its appeal also relies on the musicality of the words. In fact, experts in this field claim that a song that captivates its listeners rhymes like a poem. (Oliveira et al., 2005: 214)

For this reason, rhythm is an integral component of the song; which means that it must absolutely be taken into consideration by the translator.

-Singability: If we follow the logic of functionalists, which convinces us to a large extent, we will inevitably highlight the importance of determining the purpose of the text to be translated and its direct and imperative impact on choices regarding interlinguistic transfer. Hence, songs translations are made mainly to be reproduced and re-sung in other languages. That's why, when translating a song, we have to ensure that the target text fits into the original melody; and that it can be sung without altering

the music or melody that correspond to the original work. Otherwise, we believe that distorting and altering the musicality would betray the translation's mission. We would even say that translating it would be pointless, and that we would be better off rewriting a song in the target language, drawing only inspiration from the work that captured our attention. In this regard, Aulia and al., (2022: 215) wrote:

“A song translator should accurately follow the source text with regard to the length of the text and the number of syllables (...). However, sometimes the number of syllables may not conform to the original song, which is acceptable as long as the tempo matches that of the original song.” As pointed out here-above, it's very important that the two lyrics match as far as possible in terms of length and tempo.

-Naturalness: It goes without saying that, even when remaining faithful to the source text, a translation must respect the essence of the target language. The translated text must therefore be fluid and natural to be well received by the target audience.

-Sense: When it comes to translating songs, there are several possible approaches. In some cases, the translator chooses to reproduce the meaning and intent of the original author. In other cases, some changes are made. Still others choose to adapt the song by completely changing its meaning and rewriting the lyrics. This was the case, for example, with the French song "Comme d'habitude," composed and performed by Claude François in 1967, which was adapted by Frank Sinatra into English in 1969 under the title "My Way," and then into Arabic in 1998 by Rachid Taha, Khaled, and Faudel (1,2,3 Soleils). This version, titled "Daiman" (Always), blends the French lyrics with Arabic adaptations.

To give our opinion on this matter, we believe it would be unwise to condemn one method or advocate for another. In fact, we believe that this generally artistic choice should depend on other factors, such as the relevance of the song's lyrics, or the determination of the work's absolute strength. In the previous example, the genius lies primarily in the music and melody; the theme and lyrics, while interesting and expressive, may not possess any particular specificities compared to the melody. Conversely, the translation of songs laden with historical and/or cultural references, or conveying a very specific message (often a call to action), should, in our view, be more faithful in terms of meaning, because strength of the work resides in the text itself.

In addition to Low's aspects, we propose to add some others like:

-The stylistic effect: An author's stylistic decisions shape the text's meaning and create a specific aesthetic impact on the reader, which must be considered during translation. To ensure the target text matches the genre of the source text, the translator should aim to replicate this stylistic effect. Consequently, the original stylistic choices should guide as far as possible those made in the translation.

- Cultural references: One of the topics that have always heated debate among translation scholars is undoubtedly the translation of cultural references. The works on this subject are countless, but the limitations of our research do not allow us to elaborate on them.

The word "culture" here encompasses everything that is specific to a given region: beliefs, customs, morals, values, norms and history...etc. Cultural translation challenges refer to the difficulties in transferring meaning across languages when concepts, values, and traditions are deeply embedded in the source culture and absent or different in the target culture. Modern translation studies, particularly following the "cultural turn" of the 1990s, view translation not just as a linguistic exercise but as a complex intercultural mediation.

As we can see, a song is an entity where an amalgam of linguistic and metalinguistic features overlap and merge. The translator's task here is very similar to that of a translator of poems, but with the significant challenge of rendering a text that fits within the melody and tempo of the original song. This puts us in a problematic situation where we must (if we choose to preserve the essence of the original work) be faithful to both meaning and form at the same time.

After having explored the various theoretical bases of literary translation, and then explained the elements to be taken into account in the translation of songs being a special type; we will attempt to relate all of this to AI translations. Our aim is to test the ability of the most recent AI systems to take into account all the issues we have just discussed, and to approach this somewhat special translational mission in all its complexity.

3. Translation with AI

Less than ten years ago, Thierry Poibeau (2017: 12-13), who wrote an entire book on machine translation, stated the following:

Artificial systems are still in their infancy...and are very far from the capacities of a human being when it comes to reasoning, inferring, and reformulating...nearly, everybody agrees that machine translation is a difficult task that is far from being resolved and that only mundane texts (e.g., new technical texts) should be addressed... The idea is not to replace human translators who are the only ones able to translate novels or poetry.

What about today? Can we still say that? Or has the machine equaled—or even surpassed—humans?

3.1 How does AI translation work?

Modern AI translation is primarily powered by Neural Machine Translation (NMT) and Large Language Models (LLMs) trained on billions of words, allowing them to produce fluent, natural-sounding translations that resemble human output rather than robotic, literal conversions.

The neural approach in translation studies, primarily defined by Neural Machine Translation (NMT), represents a paradigm shift from rule-based or statistical methods to a data-driven, deep learning technique that models the entire translation process within a single large neural network. Unlike previous approaches, NMT understands

context by analyzing full sentences or paragraphs rather than individual words, resulting in more natural and fluent translations.

More concretely, the text is broken down into smaller units (tokens) by NLP (Natural Language Processing) tools. Then, the tokens are encoded or converted into numerical vectors that represent their meaning, syntax, and grammatical role. After that, a decoder network takes these numerical representations and generates the corresponding text in the target language, choosing words based on probability and context. And finally, the model uses its training to ensure the final output reads naturally and correctly (Carrasco Ramirez, 2024: 33-35).

To accomplish all the aforementioned tasks, and to pursue such a complex process in record time, often amounting to just a few seconds, AI is driven by some technologies like:

Neural Machine Translation (NMT) using deep learning that is modeled after the human brain in order to analyze and translate full sentences at once, capturing nuances in syntax and grammar.

Transformer Architectures: thanks to this technology, AI manages to focus on relevant parts of a sentence simultaneously, vastly improving the understanding of long, complex sentences.

Large Language Models (LLMs): Systems like GPT-4 or LLM-based translators are trained on vast datasets of multilingual text, enabling them to understand context, idiomatic expressions, and tone (Banerjee; Banik, 2025: 1-2).

All these technological advances have therefore enabled AI to capture context-heavy documents, produce more natural-sounding output, and manage complex syntax, idioms, and ambiguities. In the context of translation with AI, two key terms are encountered; namely: Neural Machine Translation (NMT) and Generative AI (GenAI). If both use neural networks for language tasks, they differ significantly in purpose, training, and output. To make it simple, NMT is a specialized tool designed specifically for translating texts from one language to another with high accuracy and consistency. On the other hand, Generative AI is a broader technology that creates new content (text, images, code) based on patterns, offering high creativity and context awareness.

Among the current NMT tools we can cite: Google Translate, DeepL Translator, Microsoft Translator, ModernMT... etc; and among the most popular GenAI tools are: ChatGPT, DeepSeek, Claude, and Gemini. To verify what proponents of translation with AI promise, we will now try to check what this looks like "in practice".

3.2 Translating two Algerian Songs with AI: A Practical Study

To conduct our practical study, we chose to submit two Algerian songs for translation using four different modern tools. Two of them are NMTs (Google Translate and DeepL); and the other two ones are LLMs (ChatGPT and DeepSeek). We chose to diversify the types of tools in order to understand which are best suited

for translating songs, and to explain the strengths and weaknesses of each. The aim is, of course, constructive, because it is through criticism that we can improve and move things forward.

It should also be noted that our critique will be based on the set of objective criteria established by Reiss and Low that we explained in the theoretical part. Thus, we will relate our evaluation to the type of the ST and the *skopos* of the translation. Moreover, when assessing, we will focus on: the form and the singability by comparing the number of syllables, the reproduction of rhyme, the respect of meaning, the preservation of the cultural references and the naturalness of the TT.

To return to the songs that make up our corpus, here is their presentation:

The first song is called: "Saha Aidkoum" famously performed by the Andalusian and Chaâbi music master, Cheikh Abdelkrim Dali (1914-1978). It is a festive and nostalgic anthem, frequently played on radio, TV, and in Algerian homes during the celebration of the two main Muslims fests: Eid al-Fitr and Eid al-Adha. The lyrics typically express joy for the day, congratulations, prayers for happiness and health, and well-wishes for the future. This song emphasizes some values rooted in the Algerian Culture and society like family gatherings, visiting relatives and bringing joy to orphans.

The second song is called "Ya Bnat El Djazair". It is an iconic song of Algerian musical heritage, famous for being a vibrant tribute to Algerian women, performed by the legendary singer Ali Kanouni known as Samy El Djazairi (1945-1987) in an Algerian dialect (Dardja) musical style from the Casbah called "Chaâbi "; a highly prized style from Algerian heritage. This timeless work is often played on International Women's Day and is considered an ode to Algerian women, celebrating their beauty, grace, and role in society. It mentions some articles of clothing belonging to Algeria's material heritage.

The question now is: How will AI handle the transfer of these two songs from one language to another? Will it convey their socio-cultural value? Is it capable of preserving the original meaning and intent while respecting the formal aspects? What about rhythm, rhyme and singability? And finally, will the result truly sound natural?

Table 1. Comparative Study of Song 1 and its Translations

Deepseek (LML)	Chat GPT (LML)	Google Translate(NMT)	DeepL (NMT)	The source Text
How beautiful this day is, blessed Eid to you all	What a beautiful day today, happy Eid to you	Happy Eid to you all!	From Zeno, today is your festival	1. من زينو نهار اليوم صبحا عيدكم
Syllables : 12	Syllables : 12	Syllables : 06	Syllables : 08	Syllables : 09
Happy Eid to us and to our joy With our loved ones, we are all gathered	Blessed is our Eid and our joy , Together with loved ones we unite .	May our Eid be filled with joy and happiness ! May we always be gathered with	Congratulations on our festival and our joy With all our loved ones gathered	2. مبروك عيدنا وفراحنا مع لحباب اجمعنا

God willing, may the Lord keep us joyful like today And next year, every year, may we be as happy as today	God willing, may He keep us as happy as today , And next year again, every year, may we shine with joy like today .	our loved ones ! May God keep us as happy as we are today ! May we be as joyful every year as we are today !	together God willing, may He keep us as joyful as we are today May we be as radiant as we are today every year	إن شاء الله ربي يخلينا فرحين كي اليوم نكونو عام أواخر كل سنة زاهيين كي اليوم
Syllables : 9 X 9 X 13 X 15	Syllables : 7 X 9 X 13 X 16	Syllables : 11 X 11 X 12 X 14	Syllables : 13 X 10 X 15 X 14	Syllables : 7 X 6 X 12 X 11
Blessed is the one who brings joy to the orphan The Generous Lord will be pleased with him And his reward will be immense on this day Tomorrow, with God the Merciful, he will find mercy	How fortunate is the one who makes an orphan smile , The Generous God will be pleased with them . And they will receive a great reward on this day , Tomorrow, with the Merciful God, they shall be blessed .	Blessed is he who brings joy to an orphan! The Generous Lord will be pleased with him ! He will have a great reward today ! Tomorrow, with God, the Most Merciful, he will be shown mercy !	Blessed is he who brings joy to an orphan May the Most Gracious Lord be pleased with him And may he have a great reward on this day Tomorrow, with the Most Merciful, he shall be blessed	3. يأسعد من يفرح اليتيم يرضى عليه ربي الكريم ويكون لو اجر عظيم في نهار اليوم غدا عند الله الرحيم يكون مرحوم
Syllables : 11 X 10 X 11 X 14	Syllables : 13 X 10 X 12 X 9	Syllables : 10 X 10 X 9 X 16	Syllables : 10 X 10 X 11 X 13	Syllables : 7 X 7 X 9 X 9
Blessings of this Eid upon us all And upon the people of Constantine O friends of beautiful Béjaïa, blessed Eid to you You are rejoicing today and so are we , all of you dear ones	Blessed be this Eid for us , And for the people of Constantine. Oh dear friends from beautiful Béjaïa, happy Eid to you , You shined today, and we rejoiced with all our beloved ones .	Happy Eid to us all , and to the people of Constantine! Oh, my dear friends of Bejaia, happy Eid ! You're all so happy today , and we're happy for all our loved ones !	Happy Eid to us all And to the people of Constantine Oh friends of Bejaia, happy Eid to you You've made today beautiful, and we're delighted for all of you	4. مبروك هاد العيد علينا وعلى ناس قسنطينة أه يا أصحاب بجاية الزينة وصحا عيدكم زهيتو اليوم وزهينا لحباب كلكم
Syllables : 9 X 10 X 13 X 16	Syllables : 6 X 9 X 15 X 14	Syllables : 6 X 9 X 11 X 5	Syllables : 6 X 9 X 10 X 12	Syllables : 7 X 6 X 11 X 10
Happy Eid, may it be good and blessed My beloved, people of Tlemcen Children of the ramparts, O brave ones, blessed Eid to you May you live forever in peace, each and every one of you	Happy Eid to you all, so wonderful, My dear people of Tlemcen. Brave sons of El Djedar, happy Eid to you , May you always live in peace, every one of you .	Happy Eid, my dear friends of Tlemcen! Sons of the wall, you brave ones! Happy Eid !	Happy Eid to you all My dear people of Tlemcen The lads of El Jadar, you brave ones, Happy Eid May you all live long and prosper	5. مبروك عيدكم ومزيان احبابي ناس تلمسان ولاد الجدار يا شجعان صحا عيدكم تعيشو دايما في لمان جميع كلكم
Syllables : 9 X 8 X	Syllables : 10 X 7	Syllables : 9 X	Syllables : 6 X 7	Syllables : 7 X

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13 X 15	X 10 X 12	10	X 12 X 8	6 X 10 X 9
Happy Eid to you, young people O people of Oran, friends Rejoice, old and young, blessed Eid to you May you be with your loved ones every year, as joyful as today	Happy Eid to you, young people , People of Oran, my friends . May both the old and the young rejoice, happy Eid to you , And every year, surrounded by loved ones, may you celebrate like today .	Happy Eid, young people ! Oh, people of Oran, my friends ! You bring joy to young and old alike! Happy Eid ! May you be surrounded by loved ones every year, celebrating like today !	Congratulations on your Eid , lads People of Oran, my friends Rejoice, old and young, happy Eid to you May you be with your loved ones every year, as happy as today	6. مبروك عيدكم ياشباب ياناس وهران ياالصحاب تفرحو شايب وشباب صحا عيدكم تكونو كل عام بالاحباب تزهوا كي ليوم
Syllables : 8 X 7 X 9 X 16	Syllables : 8 X 7 X 14 X 18	Syllables : 6 X 7 X 14 X 19	Syllables : 8 X 7 X 10 X 16	Syllables : 7 X 7 X 10 X 11
Happy Eid with spirit and vigour My beloved, people of the capital May Algiers always rejoice, blessed Eid to you Like a bride with a precious, priceless smile	Happy Eid to you with all good will , My dear people of the capital . May Algeria always rejoice, and happy Eid to you , Like a bride with a smile, precious beyond value .	Happy Eid with all your spirits ! My dear friends of the capital ! Algeria is always joyful, and happy Eid ! Like a bride with a smile, precious in price !	Congratulations on your Eid with joy My dear people of the capital Algeria is always rejoicing, happy Eid to you all Like a bride with a precious smile on her face	7. مبروك عيدكم بالهمة حباي ناس العاصمة جزائر تفرح دينا وصحا عيدكم كأنها عروسة بالتبسيمة غالية في السوم
Syllables : 9 X 10 X 11 X 10	Syllables : 9 X 9 X 14 X 12	Syllables : 8 X 8 X 12 X 10	Syllables : 5 X 9 X 15 X 11	Syllables : 7 X 7 X 11 X 8

Discussing the Results

As we can notice, there is a difference between numbers of syllables of all the translated texts compared with the source lyrics. This difference can be explained by the fact that each language has its own way in expressing ideas and its own syntactic constructions. But it has a considerable impact on the tempo of the song. In fact, a verse composed of eighteen syllables can't enter in the tempo and melody of an eleven-syllable verse. For this reason, it appears that many stanzas won't be sung the way they have been in the original song. And the same can be said about the chorus (part n° 1), containing nine syllables, that has been translated in a sentence containing only six syllables (by Google Translate). That's why; we believe that some modulations have to be done in terms of length in order to maintain the singability aspect.

Regarding the rhythm, the song in Arabic (Algerian dialect) has a nice rhyme in each couple of verses; but we don't really find that in the four translations. If we follow the last syllables underlined in the table, very few of them sound alike; and this point makes the translation sound like an ordinary text, not a poem or a song. This loss

is according to us a considerable one for it makes the text lose its beauty and singularity.

Talking about the meaning, we can say that all the translations preserved the source message and intention in general despite the fact that the source language isn't a classical one. However, each tool made some errors.

The most notable error was made by DeepL when it translated the sentence “من زينو” in the chorus by “From Zeno, today is your festival”. The NMT tool here failed entirely to understand the context behind words, which resulted in a misinterpretation of the word “زينو” that was translated as if it was the forename “Zeno” which is completely false. And it appears that the error in determining the context led to a second error of cultural nature, which is the translation of “عيد” that is a religious day by "festival" that is an organized artistic event.

In addition to that, we noticed that when a sentence is somehow long, AI tools struggle sometimes to keep up with the logic and the idea, as it was the case with the sentence “How fortunate is the one who makes an orphan smile, The Generous God will be pleased with them”.

Finally, we will discuss the transfer of socio-cultural references. In fact, in this song, we notice that there are two expressions that posed a problem during interlinguistic transfer; namely: “ولاد الجدار” and “باهمة”. Regarding the first expression, in the historical and cultural context of the Algerian city of Tlemcen, some historical sources (such as what was reported from Ibn Marzouq in the 15th century AD) mentioned Tlemcen as “بلد الجدار” literally “city of the wall”. Over time, this expression has become a nickname which we believe should be transliterated- like Chat GPT and DeepL did- to avoid any confusion with other places. The second expression “باهمة” is according to us more problematic, since it expresses in Algerian culture: authenticity, high quality, and pride. The word is used to describe everything that is authentic and refined, such as traditional clothing, traditional dishes, and social occasions. However, all the translations failed to transfer this meaning and gave false propositions: spirit and vigor, joy, goodwill, all your spirits. In this case, we propose to use a word that reflects the meaning of nobleness, prestige and distinction. The choice will be done according to formal needs.

To verify the first results with a second example, we added an instruction to the AI tool: the translation should reproduce the rhyme, respect the length, the cultural references and the meaning.

Let's now see if the instruction helped tools to get aware about key issues.

**Evaluating AI Translations of Algerian Songs Samples Through Objective Criteria:
A Comparative Study of Some NMTs and LMLs Results**

Table 2. Comparative Study of Song 2 and its Translations

DeepSeek (LML)	Chat GPT (LML)	Google Translate(NMT)	DeepL (NMT)	The source Text
O daughters of Algeria You who left my mind astray, in a daze	O sweet girls of Algeria, You've left my restless heart in sweet hysteria.	Oh, daughters of Algeria, You who have left my thoughts bewildered	O girls of Algeria O you who have left my mind in a daze	1. يا بنات الجزائر يا اللي خلّيتو فكري حابر
Syllables : 7 X 10	Syllables : 7 X 11	Syllables : 7 X 9	Syllables : 6 X 10	Syllables : 6 X 9
Of your beauty let me speak Saroual chelqa and the twisted scarf unique Oh such long flowing hair, so sleek In Algeria dwells my gazelle	Of your beauty I sing with delight, The chelqa trousers wrapped so tight, And the silk scarf shining bright, In Algeria lives my gazelle so fair.	I speak of your beauty The flowing trousers and the embroidered headscarf Oh, how long and graceful your hair is My beloved lives in Algeria	We say of your beauty The loose trousers and the headscarf O how lovely and slender In Algeria dwells a gazelle	2. على زينكم نقول سرّوال الشلقة ومحرمّة الفتول يا ك سالف وطول في الجزائر ساكن غزالي
Syllables : 7 X 11 X 8 X 8	Syllables : 9 X 8 X 7 X 10	Syllables : 6 X 11 X 9 X 8	Syllables : 6 X 8 X 7 X 8	Syllables : 5 X 9 X 5 X 8
Come and see the beauty, oh how fine the work of hand The parents' blessing, in their words how sweet it stands	Come and see such charm divine, Hands that craft with grace so fine, Blessed by parents' love that shines, How lovely they appear to me there.	Come and see the beauty, how lovely is the work of the hands The satisfaction of parents in all their glory, how sweet it is to me	Come and see the beauty, oh how lovely the handiwork The parents' approval, in their company, is a delight to me	3. آجي تشوف الزين يا ماحلى صنعة اليدين رضاية الوالدين في جملةهم شحال تحلى لي
Syllables : 6 X 7 X 5 X 7	Syllables : 7 X 8 X 7 X 9	Syllables : 6 X 9 X 8 X 10	Syllables : 6 X 8 X 6 X 11	Syllables : 4 X 7 X 5 X 8
Their cooking is so grand, and sweets of every shade so well Zidane's Istikhbar tune, and the Moussadar so swell	Their cooking fills the air with bliss, Pastries of every shade and sweetness, Even Zidane's tales and noble richness Sound sweeter when their voices share.	Their cooking is delicious, and the sweets are of every color The news of Zidane and the exported, how sweet it is to me	Their cook is excellent and the sweets come in every colour I asked Zidane and the source, what is a delight to me	4. طبّاخهم مزّيان والحلويات على كلّ ألوان استخبار زيدان والمصدّر شحال يحلّى لي
Syllables : 6 X 8 X 6 X 7	Syllables : 8 X 9 X 11 X 8	Syllables : 7 X 9 X 5 X 11	Syllables : 6 X 9 X 7 X 7	Syllables : 4 X 9 X 5 X 7
I see that noble grace When she wears the aajar and mends the haik with lace Her word is pure and true, from that precious place	Oh, look at that proud way she walks, Wearing the ajar and the white haik cloth, Her words are pure, sincere in thought,	I see that spirit When she wears the veil and the haik, it is perfect Her words are pure and genuine, from that precious one	I see that enthusiasm To wear the headscarf and the veil I spoke to her with a pure, genuine word	5. آشوف ذيك الهمة كي تلبس العجار والحايك مرّمة

	Like precious jewels beyond compare.		from that beloved	كلمتها كلمة أصيلة صافية من ذاك الغالي
Syllables : 6 X 12 X 6 X 5	Syllables : 8 X 9 X 8 X 9	Syllables : 5 X 9 X 11 X 5	Syllables : 7 X 8 X 10 X 4	Syllables : 6 X 10 X 8 X 6
Every finger holds a craft And her glance can melt the waxen shaft On Friday's day, I met my gazelle	Each finger shaped with gifted art, One single glance can melt the heart, On Friday day I met my sweetheart, My graceful gazelle standing there.	Every finger has a craft And with her gaze, she melts the candle On a Friday, I met my beloved	Every finger is a work of art And with her gaze, the candle melts On Friday afternoon, I met my gazelle	6. كلّ اصبع بصنعة وبنظرها تذوّب الشمعة في نهار الجمعة تلاقيت غزالِي
Syllables : 7 X 8 X 4 X 5	Syllables : 9 X 8 X 8 X 8	Syllables : 7 X 9 X 4 X 5	Syllables : 9 X 8 X 6 X 5	Syllables : 5 X 7 X 5 X 4
Wearing the djellaba, her hair a portrait of desire She captured the bachelor's heart, and I'm burning in love's fire	She wore her djellaba with gentle flame, Her flowing hair drew love like rain, She ruled the maidens with her fame, And burned my soul with love's affair.	She was wearing the djellaba, and her hair was a painting of love She captivated the bachelors, and I burned with longing	Wearing the djellaba, her hair a picture of love She captivated the bachelors, whilst I was consumed by passion	7. لابسة الجلالة وشعرها رسم الغرام ملكّت العزّابة وأنا حرقّني بالهيام
Syllables : 6 X 8 X 8 X 8	Syllables : 10 X 8 X 8 X 8	Syllables : 8 X 9 X 8 X 6	Syllables : 6 X 7 X 8 X 8	Syllables : 5 X 6 X 5 X 8

Discussing the Results

As we can see, the translations, and especially those of LMLs (GenAI) contain rhymes in most verses. We also remark that length is more respected here, what makes it more possible to be sung. But what characterizes this song above all, is its abundance with cultural references since it mentions many traditional clothing terms like *Saroual Chelqa*, *Aajar*, *Haik*, *Djellaba*...; and AI tools dealt with this fact differently.

LML tools chose to “foreignize” the lyrics by preserving the source cultural specificities and transliterating all the cultural terms (except محرمة الفتول); whereas NMT tools followed a “domesticating” strategy and erased the source identity. Hence, Google Translate for example, translated سروال الشلقة by the descriptive expression “the flowing trousers” and العجار by “the veil”; a general term that doesn’t refer to the same piece of clothes. DeepL used the same strategies when proposing the expressions “the loose trousers” and “headscarf”.

Domestication in this case is according to us an unethical and unfaithful translation because the aim of the song is to introduce and present the Algerian woman, to describe her dressing and her specefities, so, the translator is obliged to take this

skopos into account. NMT tools made also some “hallucinations” by misunderstanding terms like: استخبار زيدان that was translated by “The news of Zidane” or “I asked Zidane”; in addition to المصدر that became “the source” or “the exported”. Even ChatGPT made an error by giving “Zidane’s tales”. However, Istikhbar Zidane and Moussadar refer to styles of traditional Algerian music (often associated with the Andalusian/malouf tradition) and only DeepSeek understood it.

Rooted in the Algerian culture, this song also uses metaphors that are very common in the Algerian daily language, such as: كل اصبع بصنعة and نظرتها تذوّب الشمعة that were literally and blandly translated by NMTs, and very nicely, creatively and still faithfully translated by GenAIs.

In some cases, it was difficult for AI to get the sense and to understand the intended meaning like in: كلمتها كلمة أصيلة صافية من ذاك الغالي The translations given by NMTs : “Her words are pure and genuine, from that precious one” and “I spoke to her with a pure, genuine word from that beloved” and the one proposed by DeepSeek “Her word is pure and true, from that precious place” are either false or meaningless.

If we had to sum up our evaluation of the second sample’s translation, we would say that NMTs proposed simplified and literal translations that calked the source sentences, erased cultural specificities; and failed to preserve the beauty and the spirit of the source lyrics.

Conversely, GenAIs presented bright and creative translations without losing the spirit of the song. However, ChatGPT’s translation is somehow too long. Moreover, both results contain some errors and made modulations or additions that sometimes derivate from the source meaning like in: “from that precious place” whereas the adjective here should apply to the eloquence of the girl and isn’t about any place; “The chelqa trousers wrapped so tight” whereas this clothing is wide. That’s why; we think that the best translation would be a mixture between ChatGPT and DeepSeek results but it absolutely must be subject to post-editing by a human.

4. CONCLUSION

Through a comparative study of AI translations of two Algerian songs enriched with Algerian social values and cultural references, we looked for some answers concerning AI real ability in terms of literary translation. And here are points revealed by the present research:

-It is evident that AI made a real revolution in the Translation filed. In most cases, it is able to catch the context, make very close probabilities and good decisions in record times. But it does never guarantee a result free from errors, hallucinations, misinterpretations, omissions, useless additions, counter-senses...etc. In other words, tools still need to be perfected.

-AI got trained on a very large data, which made it able to understand a very big

number of dialects, idioms, metaphors and cultural references.

-NMTs make simplified and literal translations whereas LMLs are more creative and more suitable for songs translation.

-The accuracy of translations depends on the training quality of the tool and the purpose it has been designed for. Hence, DeepL gives natural-sounding translations, Google Translate has a very literal approach, ChatGPT has an exceptional understanding of context and meaning and is very creative, acting more like a multilingual editor, while the Chinese AI model DeepSeek has an excellent understanding and a very creative transferring and rewriting performance.

-And finally, it is clear that the field of translation still needs humans. However, the latter's task is increasingly geared towards light or full post-editing that consists in reviewing and refining machine-generated translations.

We are therefore moving from an era where men needed the machine to an era where the machine needs men. But we believe that as long as technology develops and data is enriched, languages (especially dialects), researches and creations are undergoing equally rapid, constant and significant evolution. That's why, the human will always be useful but he has keep up with the pace and adapt his role according to the needs of the moment.

5. References:

- Alexeeva, (Irina). (2021). "Criteria For Evaluating Literary Translation: Mixing The Eternal And The New." *Translation studies: theory and practice*, vol. 1, No. 1. pp 92-99.
- Aulia, (Fitri), Haru, (Deliana Dewi), Rahayu, (Surtiati Hidayat). (2022). "The Quality of Rhyme and Rhythm in Song Lyric Translation." *Paradigma Jurnal Kajian Budaya* Vol. 12, No. 2. pp 213–227.
- Banerjee, (Anasua); Debajyoty, (Banik). (Dec. 2025). "A Comprehensive Survey on Transformer-Based Machine Translation: Identifying Research Gaps and Solutions for Large Language Models." *ACM Computing Surveys*, vol. 58, No. 5. pp 1-33.
ACM Digital Library, <https://doi.org/10.1145/3773076>.
- Berman, (Antoine). (1995). *Pour une critique des traductions : John Donne*. Paris : Gallimard.
- House, (Juliane). (1997). *Translation Quality Assessment: A Model Revisited*. Tübingen: Gunter Nar.
- Low, (Peter). (2003). "Singable Translations of Songs." *Perspectives* ,11. pp 87–103.
- Nord, (Christiane). (1998). *Text Analysis in Translation: Theory, Methodology, and Didactic Application of a Model for Translation-Oriented Text Analysis*. Amsterdam: Rodopi.
- Oliveira, (Hugo Gonalo), Amílcar (Cardoso), Francisco (C. Pereira). (2005). "Tra-la-Lyrics: An Approach To Generate Text Based on Rhythm." *Proceedings of the 4th. International Joint Workshop on Computational Creativity*. London: Goldsmiths, University of London. pp 47-54.
- Poibeau, (Thierry). (2017). *Machine Translation*. Cambridge :The MIT Press
- Ramírez, (Carrasco J. G.), (2024). "Natural language processing advancements: Breaking barriers in human-computer interaction." *Journal of Artificial Intelligence General Science*, Vol. 3, No1. pp31-39.
<https://doi.org/10.60087/jaigs.v3i1.63>
- Reiss, K. (2014). *Translation Criticism - Potentials and Limitations : Categories and Creteria for Translation Quality Assesement*. Routledge.