HUMAN INTELLIGENCE – ARTIFICIAL INTELLIGENCE COLLABORATION AND RENDERING THE "UNTRANSLATABLE" IN LITERARY TEXTS

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Abstract: *Information technologies are increasingly present across various fields of activity, and translation is no exception. Translators rely on ICT (Information and Communication Technologies) in their search for resources to support their comprehension of the subject matter to be translated, to identify and extract terminology from specialised domains, as well as to compile the applied corpora according to the specific issues under investigation. When it comes to literary translation, the role of technology, particularly that of Artificial Intelligence (AI), is less evident. We note that there are certain reservations and criticisms regarding the involvement of AI, in one form or another, in the translation of literary texts, which requires a creative, emotional, and evaluative approach, taking into account the current pragmatic framework for each act of intercultural communication. Translation presents itself as a game played according to a set of rules, while the players in this game have varying responsibilities depending on the circumstances. The situation becomes more complex if the source text contains information regarded as "untranslatable", a topic long debated in translation theory and practice. How can such problems be solved: by human translator's intervention only, or by means of which translation strategies and techniques? Is AI "capable" of dealing with these elements autonomously or does it generally omit them altogether (as human translators do the same in certain situations)? What could literary translation gain from the human-machine collaboration? In the present article, we aim to analyse the current situation in the field and to provide several answers to the aforementioned questions.*

Keywords*: framework, creativity, Human Intelligence (HI), Artificial Intelligence (AI), untranslatability, game theory, literary translation.*

Introduction

Any human activity begins with a plan when professional responsibility is involved, and translation is no exception. However, in the process of the transfer from one language into another, a new framework emerges, characterized by at least a dual responsibility of the translator, namely, the responsibility toward the author and the responsibility toward the recipient. In this respect, Paul Ricoeur argues that, in the process of the intercultural communication, the recipient trusts the intercultural mediator, even though both parties are aware that it can never be entirely complete (Ricoeur, 2016: 2). Furthermore, the translators find themselves in an uncomfortable position, having to serve two masters simultaneously: the foreign author through their work and the reader in their desire to appropriate it (Ricoeur, 2016: 3). This generates a paradoxical situation in which the translator is required to mobilise their creativity to the fullest in order to find the balance between the fidelity to the source text and the suspicion of betraying it. At the same time, within the contemporary context of intercultural communication, a new actor, namely Artificial Intelligence (AI) emerged, equipped with a complex range of tools capable of improving the translation process overall. Nevertheless, an important question remains: to what extent can AI contribute to the creative dimension of literary translation and to the translator's interpretative act?

When discussing translation, Michel Ballard refers to the concept of "nodal sphere" (Ballard, 2013: 17), which comprises networks of human capacities such as emotions, reasoning, memory, instincts, and sensations that, in one way or another, participate in the act of translation. This sphere contains "dormant" forms of knowledge that can be activated by the translator's willingness to act. Furthermore, the ability to respond to challenges arising in varying translation situations also depends on the translator's professional experience and competencies, all contributing to the quality of the end product (target text). Under such circumstances, the translation relies on points of contact, or the translator's *habitus* (Ballard, 2013: 17–18), taking into account the updated communicative framework, including the economic conditions, the client's requirements, as well as others that the translator is more or less aware of. Within the aforementioned pragmatic framework, AI could function both as a support mechanism and an amplifier of the conditions that contribute to achieving a valuable translation output, in the field of literary translation as well.

In the following sections, we aim to clarify the current context of literary translation and, more specifically, the ways in which the translator (human intelligence) and the algorithms (artificial intelligence) get involved and collaborate in this complex creative and interpretative process.

The Dilemma of Resistance to AI-Assisted Translation

The well-known scholar Irina Mavrodin reflects on the topic of intercultural communication by questioning if the literary translator is an author and if the translation process is a work of authorial creation (Mavrodin, 2006: 6). Her answer is affirmative, and it is supported by several arguments. Drawing on her own experience as a writer and a translator, the scholar argues that translation is a creative and a theoretical game; as a game, it operates according to a set of rules needed for its meaningful and viable unfolding (the translator defines these rules, that is, they opt for specific translation methods and strategies). Yet, adhering to these rules, she notes, "does not suffocate inventiveness or

creativity; on the contrary, it stimulates them" (Mavrodin, 2006: 11). This refers to the responsibility placed on the translating subject, one that is directly proportional to the breadth of knowledge and the diversity of competencies developed and applied in the translation process. In connection with Mavrodin's observations, we wonder whether, in such a context, AI could be compared to human intelligence. Furthermore, is a creative collaboration between these two forms of intelligence even possible, and, if so, what kind of output might result from such hybridisation, assuming that we consider it acceptable and legitimate? The current reality suggests that there is no clear or unambiguous answer to the question of whether AI can truly become an ally, for the translators as well, in the process of critical thinking. Indeed, AI is often rejected from the outset, not necessarily based on its actual performance, but rather based on an attitude of disqualification grounded in the assumption that machines do not think and do not ask questions, since they lack an existence of their own (Brenifier, 2026: 7).

Yuval Noah Harari attempts to examine the causes behind this "reluctance" toward computers, often seen as "mathematical entities lacking both psychology and mythology", thus creating the impression that "if we could remove humans entirely from the equation, algorithms might finally make decisions based on pure mathematics, unaffected by psychological distortions or mythological biases," even though, according to a large number of studies, "computers themselves often display deep biases" (Harari, 2023: 254). At other times, the rejection of AI is not grounded in solid arguments, but rather in an emotional reaction or in the fear of losing a symbolic privilege (Brenifier, 2026: 53). For those supporting such positions, the use of AI is perceived as a form of "cheating." However, since writing or producing a text is viewed as a personal creative act, through which individuals develop their abilities throughout their lives and experiences, there is also a belief that the use of AI threatens the authenticity and originality traditionally associated with humans.

On the other hand, we note that exploring and using AI broadens the horizons of knowledge and helps identify new perspectives, ideas, and even solutions. Furthermore, a significant part of translation activity is already computerised through tools and processes that simplify various operations involved in organizing the workflow. When used in an informed and expert manner, AI can provide the conditions for a "cognitive liberation" and serve as an enhancer of creativity, ensuring the framework for strategic reflection and for the development of metacognitive competencies. We may also observe that, the methods used by humans and those implemented in algorithms designed by computer science specialists often have multiple points of convergence. The database used in the process of AI development "resembles, to some extent, a person's childhood," and "once an algorithm has been trained, it takes a long time to 'untrain' it" (Harari, 2023: 258). In other words, "the people designing computers today must accept that they are not solely generating new tools; they are unleashing new types of independent agents and perhaps even new kinds of gods" (Harari, 2023: 259). Nevertheless, a co-evolution within the human-machine dyad may contribute to AI "up-bringing and educating" in the direction intended by the human subject. In this regard, AI becomes a cognitive partner rather than a simple substitute, and the aim of this collaboration is to create a productive symbiosis (Brenifier, 2026: 33).

Any decision made during the translation process, including the choice of a textual, pragmatic, cultural, or stylistic equivalent, requires the careful weighing of two

aspects: what the translator knows and what they do not know about the information being translated. Therefore, translators often perform multiple searches and evaluations in order to establish the most appropriate equivalent for a given context; at this stage, however, AI operates primarily through the algorithms at its disposal and does not necessarily identify the most suitable equivalent. In some cases, it may even misinterpret or invent ideas and information for the purpose of providing an answer, phenomena commonly referred to as AI hallucinations. Within the field of AI, hallucinations are seen as situations in which the system generates responses that are false, invented, or even absurd. Nevertheless, it is also argued that AI hallucinations can sometimes function as a mirror reflecting human cognitive errors, since machines do not truly "hallucinate"; rather, they mimic human language and behaviour. If the translator does not post-edit, via reliable verification tools, the text resulting from HI-AI collaboration might display serious translation errors. Another troubling consequence is the emergence of what may be called "intellectual laziness", as human beings naturally tend to seek to find shortcuts, and AI seems to offer them generously.

The Framework of Source Text Production vs the Framework of Translation Reception and the Role of AI

A translator is constantly searching for equivalents at both macro- and micro-textual levels that would reproduce, as fully and faithfully as possible, the information from the source text. In this context, it is worth recalling the ideas advanced by Eugene Nida, who explicitly argues in favour of the possibility of intercultural communication based on the similarity of human experience worldwide (Nida, 2004: 21). The American scholar highlights a number of factors affecting the success of the translation act and emphasizes the importance of the framework, that is, the original communication context, since "a change of framework produces major differences in translation" (Nida, 2004: 43). Only in this way, Nida argues, the translator can determine "how much of what is implicit in the original text must become explicit in translation" (Nida, 2004: 43).

The notion of framework is also found in the scientific interests of the renowned linguist Eugenio Coseriu. It was first recorded in his 1955-1956 study, entitled "Determination and Environment: Two Problems of a Linguistics of Speaking", and was later revisited and developed within a broader theoretical perspective in "Text Linguistics" (Coşeriu, 2013). First and foremost, the emphasis placed on the text clearly shifts translation from the dimension of language as a system to that of speech (speaking), thereby reinforcing the view that translation is textual rather than linguistic. On the other hand, Coseriu argued that the notion of context had become overloaded with meanings, which likely explains the attempt to identify another, more precise concept to designate this reality (context).

Eugenio Coseriu operates with several types of frameworks, and their analysis provides translators with valuable support by distinguishing the informational, cognitive, and cultural layers, as well as the historical evolution of societies, all contributing to a deeper understanding of the messages and texts to be translated. The linguist identifies four fundamental types of frameworks: *situation, region, context,* and *universe of discourse*; together, these constitute the polysystemic reality within which the source text is created and open up multiple pathways for the translator in the examination of possible translation equivalences.

Through the framework he terms *situation*, Eugenio Coseriu refers to a spatial-temporal configuration "created by discourse itself and organized in relation to the subject of the discourse" (Coşeriu, 2009: 222). It is therefore evident that the parameters included within this framework are of primary importance for the translation process. By the framework termed *region* (which Coseriu further divides into several subtypes, namely zone, domain, and environment) the scholar understands "the space within whose boundaries a sign functions in systems determined by meaning" (Coseriu, 2009: 223); this framework being shaped, on the one hand, by linguistic tradition and, on the other, by the speakers' experience of the language designated realities. Thus, the translators shall take into account the diachronic evolution of the languages involved in the translation process at sociocultural, lexical, grammatical, and stylistic levels, in close connection with the transformations occurring within the extralinguistic reality. The framework of region closely intersects with that of *context* (organized into the triad of idiomatic, verbal, and extraverbal contexts, i.e., circumstances of non-linguistic nature) which refers to the complex reality in which the sign or discourse functions "as the interlocutors' "knowledge," as physical presence, and as activity" (Coşeriu, 2009: 225). From the translation perspective, we argue that context serves as a fundamental framework, and the translator, acting as an intercultural mediator, is required to have the relevant competencies in both the source and the target language-cultures.

Eugenio Coseriu further distinguishes several additional types of contexts: the natural context, namely the empirical universe known and experienced by the interlocutors; the historical context, formed by the historical circumstances of the subjects involved; and the cultural context, which comprises everything belonging to the cultural tradition (Coşeriu, 2009: 227–228). The fourth framework, the *universe of discourse*, represents, in Eugenio Coseriu's view, "the universal system of meanings to which a discourse (or an utterance) belongs and which determines its validity and meaning" (Coşeriu, 2009: 228). In translation, this framework carries several layers of subjectivity: that of the author as creator, that of the translator as interpreter and creator, and that of the recipient. At every stage of the creation-interpretation-translation-comprehension process, there is room for multiple versions and multiple end products (texts). It, therefore, becomes clear that there is an "interweaving" of different frameworks, and such co-functioning further excludes the possibility of a single (definitive) translated version. Moreover, at present, these frameworks are marked by varying degrees of openness to accepting a new "actor/player", the AI, which expands the existing parameters beyond any temporal or spatial limits.

Under these conditions, having the AI "offer" available, translators use it either as a consultative resource during the pre-translation stage (to address conceptual or cultural gaps between the languages and cultures involved in the translation process) or as a provider of translated versions (texts), as a result, the translator will assess what is or is not suitable in the generated response, expand or criticize the resulting message, and initiate new searches either with or without AI support. In doing so, the translators formulate new tasks for AI in order to further analyse the meanings conveyed by the translated text and to select the most appropriate equivalent or establish the acceptable degree of explicitation in translation. It may, therefore, be useful to classify the tasks (prompts) assigned to AI according to the framework type involved (we opt for the framework typology proposed by Eugenio Coseriu), which would allow for an understanding of the thematic areas in which AI performs more effectively and could contribute to a productive human-machine

collaboration aimed at generating translations that are as complete as possible from the informational, stylistic, cultural, and pragmatic perspectives.

The Game Theory and The Game of Translation through The Lens of AI Involvement

The game theory is a branch of applied mathematics, formally developed by the mathematician John von Neumann (1928) and initially intended to describe the conflicting relationships (conflicts of interest) based on rational decision-making. The main idea was to identify the best strategy of action in a given situation, so as to maximize gains and minimise losses. This refers to the concept of "minimax strategy", which can be applied in various fields of activity, including translation. Within the game theory and AI, the minimax algorithm has several functions (Hristea & Balcan, 2005: 97), which could be implemented in the translation process. The algorithm generates the entire "game tree" up to the terminal states, applying "the utility function to each terminal state in order to obtain the corresponding value" (ibid.). In translation terms, we argue that this process describes the translator's actions and decision-making in the search for solutions, leading to the final result (the target text). Furthermore, the idea of process optimisation has drawn the attention of translation scholars seeking ways to support translators streamline the decision-making process, meaning that, pragmatically, translators often resort intuitively to the minimax strategy.

David McAdams's opinion is particularly relevant to our research. The scholar argues that the syntagm "the science of games" refers to "the ability to see the world around you strategically, with your eyes open" (McAdams, 2014: 13). Translation is, in essence, a decision-making process, and strategic thinking contributes to identifying the key factors (such as cultural, pragmatic, lexical, etc.) that generate translation challenges, or even translation errors, particularly in the field of literary translation. Game theory assists in developing tactics and provides moments of strategic insight (McAdams, 2014: 15). These are actions that can be attributed to the translator's personal approach: the translator performs a sequence of moves within the game (the translation process) and makes pragmatic, semantic, and syntactic choices from the range of alternatives (equivalences), opting for the most successful, most appropriate, and closest to a balanced solution.

The presence of an opponent further contributes to the complexity of decision-making, since "the opponent brings in *uncertainty*, as one never knows his/her next move would be" (Hristea & Balcan, 2005: 95). We refer to the two-player games, comprising perfect or complete information, which end once a so-called "terminal" position has been reached; it unfolds in the form of *a game tree* (in translation, we may associate it with the search for equivalence), where the nodes correspond to situations or states. "The initial stage of the game is the root node, while the leaves of the tree refer to terminal positions" (Hristea & Balcan, 2005: 96). In previous publications, we argued that the exegesis of translation can itself be interpreted as a form of arborescence: "Étant de nature discursive, la traduction est élaborée sur les énoncés qui sont, à leur tour, les points de développement des discours. Il est possible de comparer l'exégèse de la traduction à celle d'une arborescence fractale de nature symétrique et asymétrique en même temps." ("Being discursive in nature, translation is built upon statements which are, in turn, the points of discourse developments. It is possible to compare the exegesis of translation to that of a fractal tree structure that is both symmetrical and asymmetrical in nature.") (Zbanț et alii.,

2015: 229). From a translation perspective, we are dealing with the source text (the root node) and the output of the game (translation), the target text. Just as the movement from the root node toward the leaves can follow multiple paths, the translator likewise performs multiple searches to establish the appropriate equivalent.

David McAdams, in turn, argues that "to change the game for the better, it is essential to attract and/or cultivate a different type of player (one who is flexible, intellectually rigorous, and highly tolerant of ambiguity") (McAdams, 2014: 16). It seems that, when applied to the translation process, this framework may accommodate the human intelligence-artificial intelligence (HI–AI) dyad, with AI being a different kind of player. In this configuration, the game theory comprises a specific range of cooperation and competition scenarios (Christian & Griffiths, 2023: 371).

Among Irina Mavrodin's reflections on translation as a game, the author highlights one of its fundamental rules: "to define the concepts one works with as clearly as possible," since these are the tools the translator uses (Mavrodin, 2006: 12). Translation, thus, becomes "a process of artistic awareness, controlled, (to a certain extent), by the writer (or the artist in general), the critique, and the translator alike. When these individuals *live* their work on the intellectual and sensory levels, they themselves become creators in the fullest sense of the term." Like any game, translation involves taking an incalculable risk, "and yet there will always be individuals willing to play it" (Mavrodin, 2006: 12). In order to reduce the risks, a responsible translator proceeds to the translation stage with documentary research, searching for information that may be useful in identifying an appropriate solution to any foreseeable challenges that may arise in the interlinguistic and intercultural transfer. Thus, at this stage, AI can provide significant assistance by supplying relevant documents and information following the translator's objectives and requirements, including the compilation of materials into corpora for theoretical and/or applied study.

In literary translation, these scenarios branch out into multiple trees, involving participants with different statuses. First, we refer to the binary pair of the (literary) author and the translator (who may themselves constitute a plural/hybrid translator, the HI-AI partnership). Second, the plural translator dyad emerged (HI-AI), and third comes the recipient of the translation(s). Often, all participants influence or condition, in one way or another, the translator's decisions. Moreover, from the game theory perspective, the condition that no participant should lose in this game comes into attention, giving rise to the search for a balance that would lead to a certain degree of (relative) stability.

Among the most significant achievements of the game theory is the theorem discovered and proven by John Nash in 1951 (a discovery that earned him the Nobel Prize in Economics in 1994) according to which all two-player games have at least one equilibrium point (Christian & Griffiths, 2023: 371). McAdams formulates the formal definition of Nash equilibrium as: "a Nash equilibrium is a strategic profile in which each player's strategy is the best response to the strategies of the other players" (McAdams, 2014: 118). This concept of equilibrium is fundamental in economics and the social sciences.

In the translation process, the notion of equilibrium is also important, since translators often oscillate between varying choices, such as whether to partially disregard the pragmatic framework and lose part of the information conveyed in the original text, or whether to only partially respect the pragmatic framework of the target text. Thus, while Nash equilibrium is the result of mathematical operations, a science concerned with the truth, things become more complex when strategic modelling involves computer science, a

field characterised by complexity. Therefore, this approach led to the emergence of a new theory, the algorithmic game theory, which evaluates the combined contribution of machines and humans (AI and HI) in identifying the strategies to be applied in such algorithmic games (Christian & Griffiths, 2023: 373). This description aligns with translation practices, resulting from the human-machine collaboration, in the effort to establish translation strategies providing a "balanced" end product, from the perspective of both the author and the recipient. However, as Brian Christian and Tom Griffiths emphasise, reaching an equilibrium does not necessarily guarantee the quality of the end product (Christian & Griffiths, 2023: 374); that is, the translators should anticipate the possible variations of the initially adopted strategy, thus increasing their chances of identifying a solution acceptable within a specific pragmatic context. Indeed, every translation process is closely linked to the conditions under which it is carried out, and many of the translator's choices depend directly on the needs or limitations of the target text. The history of translation provides numerous challenging examples in this regard: sacred texts translation, the "*belles infidèles"* (French for "unfaithful beauties), censorship practices in totalitarian societies, and so forth. It is precisely for these reasons that we can distinguish two types of game theory applications within the translation process: that of cooperative games (where translators have to comply with conditions imposed by their society) and that of non-cooperative games, based on the originality of the adopted translation approach. In this regard, Nicolas Froeliger argues that history clearly demonstrates that the act of translation is, to a large extent, intuitive, agile, unsystematic, that is, analogical in nature (Froeliger, 2013: 8).

It becomes evident that translators can never be entirely certain that they have grasped all the meanings from the source text; in other words, the source text cannot be regarded as determinant in the translation process. We refer to the principle of "indeterminism" in translation, meaning that a text does not necessarily determine its translations. The Czech scholar Jiří Levý (2011) approached the game theory in the context of literary translation and concluded that the source text has aspects requiring important decision-making. Within a text, all such points co-function, so that semiosis takes place throughout the reading process, whether on the part of the translator or the recipient. In other words, a decision made by the translator will have direct consequences on the decisions made later in the process.

We may therefore consider that we are witnessing a genuine game of translation, shaped by the translator's subjective decisions (with the possibility of making adjustments based on AI-generated versions), grounded in rational choices and aligned with a pragmatic framework in a given historical and social context. It is precisely these "moves of the game pieces," made in the attempt to find optimal and appropriate solutions, that builds the bridges between game theory and the translation process, while highlighting the generic dimension of translation: like a game, translation reflects the absence of precision and the possibility of shifts in decision-making. Unlike games, in translation we do not operate with the notions of winning or losing; we rather refer to the assessment of a translation's success or failure or evaluate the ability to find a balance when faced with challenges that arise throughout the translation process, particularly in literary translation. It is also worth noting that, in the case of literary translation, emotional, psychological, and ideological factors must be taken into account, areas in which AI remains less effective in providing acceptable outputs.

Revisiting the Human-Machine Collaboration in the Translation of Specialized versus Literary Texts

There is no denying that new communication technologies generate various effects on the translation activity. On the one hand, they offer the possibility of moving beyond the traditional model of target text production; on the other hand, they raise questions and generate a series of challenges related to language proficiency, the quality of the information systems assisting translation, and the reliability of automated outputs. These developments have also transformed the ways in which different types of translation activities are approached, particularly the literary translation.

In his attempt to analyse the effects of new information technologies on translation, Anthony Pym builds on the distinction between the syntagmatic and paradigmatic axes of language (Pym, 2025: 159). As we know from the principles of Saussurean linguistics, the syntagmatic axis allows us to observe the flow of language in its written or spoken form, where words follow one another according to the syntactic rules, whereas the paradigmatic axis involves the selection of appropriate words. Pym argues that automation technologies tend to privilege the paradigmatic dimension, thereby interrupting the flow of language (Pym, 2025: 159). The automation of the translation processes relies on the standardization of discourse, i.e., once a translation has been produced, it can be repeated across subsequent texts. This principle applies primarily to specialized translation; however, it is not applicable to literary translation.

Within the constantly evolving technological landscape, a comparative analysis of several AI-based translation systems and algorithms, such as ChatGPT (OpenAI), Claude (Anthropic), Gemini (Google), DeepL, and Google Translate, provides the methodological framework to study the translation of specific literary elements, the multilingual interferences, the stylistic complexity, and especially the forms of untranslatability. This approach allows us to examine how technological algorithms handle culture bound elements and references, code-switching events, and stylistic variation, thus contributing to a better understanding of AI capabilities and limitations in literary translation.

A brief overview of current opinions on the role of new information technologies in translation reveals a new reality: the rapid development of AI has reshaped the field through machine translation (MT), particularly with the launch of Large Language Models (LLMs), alongside neural machine translation (NMT) systems. The current research and translation environment is marked by the coexistence of these two paradigms, each with its own strengths and limitations. The neural machine translation (NMT)-based systems, such as DeepL and Google Translate, continue to be valued for their fidelity, terminological precision, and ability to process large volumes of text. These tools use the "sequence-to-sequence" architectures and large volumes of parallel corpora, achieving accurate results for language pairs supported by ample linguistic resources and comprehensive linguistic datasets. However, the effectiveness of machine translation is often limited in fields requiring specialized (technical) vocabulary and contextual precision, fields such as medical communication (Li, Zhou et al.). Furthermore, the studies in specialised and community translation, based on statistical identification and parallel corpora, show that neural machine translation (NMT) systems, generate superior results in terms of grammar correctness and coherence, particularly in technical or specialized fields (Costa-Jussà, Farrús, Serrano Pons). Additionally, based on research on parallel corpora

and statistical identification of predefined patterns and algorithms, it can be argued that these systems are built on pattern recognition and predefined algorithms derived from such parallel corpora, thus they tend to generate standardized (faithful and literal) translations, which may be seen as a limiting factor in literary translation, where texts are stylistically complex and culturally specific. In contrast, the human intelligence (HI), namely the competent translator, can produce culturally adapted and creative translations that render the implicitly intended meaning and expressiveness of the source (original) text (Benjamin, 1997).

Furthermore, we note that systems based on large language models (LLMs), developed by organizations such as OpenAI, Anthropic, and Google, have brought about a paradigm shift through their ability to process contextual information and generate flexible responses. It seems that LLMs can be effective in capturing the semantic and stylistic nuances and shades of meaning, the textual and discursive coherence, the contextual meaning, and the pragmatic intention, thus, outperforming the machine translation systems in tasks involving creative language and literary texts (Al Rousan, Jaradat, Malkawi, 2025). For instance, ChatGPT-4 (OpenAI) shows an ability to capture and interpret contextual elements, and generate responses in different registers and stylistic modes, including the humorous discourse (using elements of humour). Moreover, as it was mentioned above, because these systems are built on vast and diverse corpora and datasets, AI-based models (systems) can process information from various fields and provide accurate responses (Van Bulck & Moons, 2024).

Although, specifically in the field of translation, the aforementioned systems may be less precise in terms of strict fidelity to the source text, they frequently achieve a higher level of fluency and readability, particularly in literary translation contexts. The use of AI-based translation systems remains both widely criticized and strongly supported within translation studies, some scholars arguing that AI-assisted translations can produce valuable outputs, generating coherent, logical, faithful, and accurate target texts (Larroyed, 2023); supported by the further argument that these systems do not only provide a faithful rendering of the source text and its communicative intention, they also can help in identifying errors in the target text, thus, assisting the translator in the revision and editing processes (Siu, 2023). On the other hand, a number of researchers oppose the use of AI in translation, emphasizing its inability to provide accurate and reliable translations in certain specialized fields (medical, economic) or in literary translation (Deng & Lin, 2023).

The distinction between these two technological approaches is relevant for literary translation analysis. While NMT systems prioritize accuracy, coherence, and terminological consistency, LLMs tend to perform better in dealing with ambiguity, metaphors, culture bound elements, and stylistic variation. Professional recommendations encourage the use of NMT systems for technical, legal, and specialised translation, while LLMs appear to be better suited for creative, narrative, and culturally rich content. For instance, the official website of the European Union, in the section of the Translation Centre for the Bodies of the European Union (CdT), explicitly acknowledges automation in translation services, providing fully automated machine translation solutions, which use a combination of the Centre's translation memories and machine translation engines.

This distinction reflects the methodological evolution in translation studies, where AI tools are evaluated on the basis of precision, as well as according to their capacity to preserve voice, intention, tone and cultural specificity. Nevertheless, we find

that the above-mentioned machine translation systems do not fully replicate the performance of human translation (human intelligence). We believe that HI translations are superior in terms of fidelity, cultural sensitivity, and interpretative depth, particularly in the case of literary texts created in diverse cultural and social environments. At the same time, both large language models (LLMs) and neural machine translation (NMT) systems show limitations, i.e., NMT systems tend to standardise, normalise, and homogenise linguistic variation, while LLMs may generate answers with omissions, reinterpretations, or stylistic smoothing if they are not carefully guided by prompts and explicit instructions. As a result, current practices favour a hybrid approach that combines AI-generated translations with human post-editing and critical assessment.

Comparative Assessment of Literary Translation Models Developed by HI and AI Based on the Corpus of Collected Examples

Within the literary heritage of national cultures and literatures, there are texts embedded with information carrying strong cultural resonance. It is these texts that shed light on certain events, mentalities, and social realities of a given society at a particular stage of its development, while transmitting sociocultural knowledge beyond its boundaries by providing multiple language translations. However, these very texts generate translation challenges, which do not always have available solutions that would ensure a high degree of fidelity between the source text and the target text.

In this paper, we draw on a limited corpus of examples collected from the novels of two authors originating from different sociocultural environments: the Norwegian writer Jo Nesbø and the Moldovan writer Tatiana Țîbuleac (who currently lives in France). The novels have been translated into several languages, including English, French, German, Norwegian, Romanian, Russian, and Spanish. The corpus comprises 130 examples extracted from the two original texts, the novel "Kongeriket" by Jo Nesbø (with existing translations into English, French, German, and Romanian) and "Grădina de sticlă" by Tatiana Țîbuleac (with translations into French, German, and Norwegian). Both novels capture (and construct) the image of their respective societies through their main characters' experiences and actions, while the translator is invited to engage closely with these realities and to interpret them through the author's intention, as well as through the intention of the text itself, that is, through what the text implies in relation to the language in which it is written and the cultural context in which it was produced (Eco, 2006: 15).

From the compiled corpus, we selected and analysed in detail a number of examples regarded as most relevant to the aim and issues addressed in this research. The methodological approach adopted for this investigation begins with the selection of the excerpts according to pre-established categories of untranslatable elements (titles and forms of address, gastronomy related terms, etc.) and pre-established criteria (untranslatable lexemes, sociolinguistic markers, cultural references, stylistic fidelity, and translation techniques applied); quality assessment of selected excerpts from human-made translations, followed by their comparison with versions of the same excerpts generated by AI systems. Our objective was to analyse the strategies used by both humans and the machine in order to identify solutions, problematic renderings and translation errors, as well as certain hallucinations (inaccuracies) resulting from erroneous choices made by AI. We also took into account the fact that Jo Nesbø's novel was translated into Romanian via

the intermediary of the English version, a circumstance that led to the perpetuation of translation deviations and errors already present in the English version.

Returning to the broader theoretical context, namely, the long-standing debate on the possibility or impossibility of translation, including literary translation, we note that this issue has a long history, and the arguments and counterarguments put forward in each era reflected their current sociocultural and historical conditions. Judging from the way AI systems respond to tasks/prompts formulated by translators, it appears that AI aims for accuracy and exactness, implicitly assuming that there is a single solution for every translation issue. Consequently, the machine's output may fluctuate between an acceptable suggestion, a literal translation, or, in some cases, an erroneous translation (AI hallucination).

If we analyse the translation limits, they depend on a variety of factors; nevertheless, the key role still belongs to the translator, who interprets the original subjectively, according to the cognitive and professional "dialogue" established with both the source text and the target text. This dialogue is directly shaped by the translator's knowledge of the conceptual and linguistic landscape in the source language-culture and, respectively, in the target language-culture. The translator's ability to find solutions to translation challenges, with the smallest possible loss of information, depends on the competencies they develop and on the way these competencies are applied.

It thus becomes clear that, what is often argued as the so-called impossibility of translation stems from the fact that translation will never fully capture and reproduce the original literary text in all its dimensions. The arguments denying the possibility of complete rendering in translation are frequently based on an exaggerated dramatization of the linguistic diversity. Georges Mounin was entirely justified in stating that: "L'activité traduisante pose un problème théorique à la linguistique contemporaine: si l'on accepte les thèses courantes sur la structure des lexiques, des morphologies et des syntaxes, on aboutit à professer que la traduction devrait être impossible. Mais les traducteurs existent, ils produisent, on se sert utilement de leurs productions. On pourrait presque dire que l'existence de la traduction constitue le scandale de la linguistique contemporaine." (The act of translation poses a theoretical problem for contemporary linguistics; if one accepts the prevailing theories on the structure of lexicons, morphologies, and syntaxes, one ends up asserting that translation should be impossible. But translators exist, they produce, and their work is put to good use. One could almost say that the existence of translation constitutes the scandal of contemporary linguistics.) (Mounin, 1963: 8).

For his part, Paul Ricoeur confidently affirms that *« l'on a toujours traduit »* ("translation has always been done") (Ricoeur, 2016: 15); the scholar strongly criticizes the destructive and paralyzing alternative based on linguistic diversity seen as a form of radical heterogeneity, an idea that would seem to reinforce the claim that translation is theoretically impossible because languages are, a priori, untranslatable. And yet, translation is possible. Ricoeur put forward two arguments in support of this position: the practical one concerns the opposition between fidelity and betrayal, and the theoretical one is centred on the opposition between the translatable and the untranslatable (Ricoeur, 2016: 17). In other words, the existence of translations of all kinds is the practical response to the millennia-old argument on linguistic diversity. The researcher formulates an almost oxymoronic conclusion, arguing that translation is a creative betrayal of the original and an equally creative appropriation by the host (target) language; it is a *construction of comparability* (Ricoeur, 2016: 46).

In this regard, Eugenio Coseriu emphasises that the diversity of semantic structures does not, in itself, affect translation, since translation is not about what languages "say", but rather what is said through discourse by means *of language*. According to Coseriu, translation difficulties do not arise from the semantic diversity of languages, but from the *empirical difficulties* encountered when establishing intertextual equivalences, yet, these difficulties do not constitute a *rational* limit of translation (Coşeriu, 1998: 21).

The oscillations involved in choosing the most appropriate equivalent are far from simple in the field of literary translation. The translator's creativity involves the acts of searching for information, consulting various sources, and reading other works by the same author to better grasp their style, as well as analysing the historical period of the action described in the text. In this respect, we align ourselves with the need for a methodological approach focused on the cognitive (semantic and pragmatic) and communicative dimensions of translation in general, and literary translation in particular.

Alongside these conditions, we also bear in mind that "a series of meanings imply several types of referents" (Nida, 2004: 48), which in turn require different translation procedures applied in the analytical phase. To what extent can AI be involved at this stage of translation? Could AI discern multiple levels of semantic, semiotic, and pragmatic analysis, and how reliable or contextually appropriate would the equivalence proposed by the machine-translator collaboration actually be in relation to the framework in which the source text was written and the framework in which the translation is produced? Eugene Nida distinguishes at least three levels of interpretation in the semiotic approach to meaning analysis: the first level consists of the immediate understanding and evaluation of discourse (Nida, 2004: 49); in the case of literary translation, this involves a first reading of the text to be translated and identifying "nodes," gaps, and pitfalls that may hinder or distort the translation process. We believe that, at this first level of interpretation, the literary translator cannot entrust the task to AI systems, since the algorithm may "invent" an equivalent; moreover, the translator themselves must demonstrate a responsible attitude throughout the translation process. The second level identified by Nida involves "the analytical study of the text, its structure, and its context" (ibid.). At this stage, AI may provide documentary support collected in response to explicitly formulated translation tasks. However, the reliability and accuracy of the proposed information must still be verified, since errors are possible. The third level of interpretation discussed by Nida "is reached when the text is viewed from the perspective of its symbolic meaning, often in the light of its universal implications" (Nida, 2004: 49). This stage is particularly relevant to literary translation, where the collaboration of the human intelligence-artificial intelligence (HI-AI) dyad is possible, though with a clear emphasis on human intelligence and on the translator's ability to interpret symbols within varying cultural contexts.

The work process, followed by a responsible translator before the act of translation begins, involves several pre-translation stages, the main ones being textual analysis, discourse analysis, and justificatory analysis. Source text analysis helps identify the text type and its communicative purpose and, "based on the findings, the translator establishes the translation strategy and procedures through which the author's intention will be transferred into the target text for a similar effect on the recipient" (Lungu Badea, 2005: 65). Discourse analysis contributes to "discovering the semantic organisation of extended texts and goes beyond the formal and literal appearance of the source text, segmenting it into both systematic elements (classes of equivalence), simple logical

sentences, and argumentative or narrative macrostructures" (ibid.). Finally, justificatory analysis serves to verify the quality of the resulting version (the absence of forms and structures from the source language). In other words, it "assesses the accuracy of the chosen solution to render the meaning of the source utterance" and contributes to correcting any errors identified in the source text, prior to the final validation of the translation (Lungu Badea, 2005: 65–66).

We cannot provide an exact answer to the question of to what extent AI could handle these pre- and post-translation stages in literary translation, but we attempt to examine a series of examples collected based on the presence of sociocultural elements displaying varying degrees of "foreignness" from the perspective of the target text, aiming to analyse the versions produced by human translators and by AI tools in different languages.

The translation of units of measurement shows diverse approaches adopted by translators, since each society has historically developed its own systems of measurement. In certain contexts, it becomes important to reproduce such elements as closely as possible to the original form for its cultural and contextual specificity.

Table 1. Set of Examples from *Kongeriket* by Jo Nesbø

Source text (original)	Om noen spør om prisen per **mål**? (p. 50)
Romanian version	– Şi dacă ne întreabă cineva care este preţul pe **acru** ?
AI-generated translation	Dacă cineva întreabă care este preţul pe **metru pătrat**?
English version	And what if someone asks the price per **acre**? (p. 48)
AI – generated translation	If anyone asks about the price per **square metre**?
German version	Und wenn jemand nach dem **Grundstück**preis fragt? (p. 48)
AI-generated translation	Wenn jemand nach dem Preis pro **Quadratmeter** fragt?
French version	– Et si quelqu'un demande le prix à l'**hectare** ? (p. 58)
AI-generated translation	Si quelqu'un demande le prix au **mètre cube** ?

Mål is a Norwegian unit of measurement used for surface area, where 1 *mål* equals 1,000 square meters. An analysis of the versions proposed by the translators first reveals that the Romanian translator did not work with the Norwegian original, but rather from the English (translated) version the novel, which explains the use of *acre* as the unit of measurement, an English equivalent chosen to render *mål*. In the German version, this unit is omitted, the translator opting instead for pragmatical adaptation and generalisation through *dem Grundstückpreis fragt* ("the price of the land/property"). In the French version, however, we find the use of *hectare*, a unit commonly used to measure land surfaces, especially in agriculture. In all these cases, the translators make use of pragmatic equivalence updated at the extralinguistic level, since each of these units corresponds to a different number of square meters.

If we examine the versions generated by AI for this set of examples, it appears that, this time, the machine made a better choice, most likely by relying on the mathematical equivalence (formula) between *mål* and square meters. The only exception is found in the French translation, where the AI produces the hallucinated expression *au mètre cube* ("per cubic meter") - a unit used to measure volume rather than surface area.

Realia, or culture-specific items, are often closely connected to the gastronomic sphere of a culture, and their translation requires detailed research in order to visualise the product itself and attempt to establish an appropriate interlinguistic equivalent. Such lexical

items frequently lie at the very limits of translatability. We attempt to assess the way both human translators and AI systems attempt to compensate for informational and lexical gaps.

Table 2. Set of Examples from *Grădina de sticlă* by Tatiana Țîbuleac

Source Text (Romanian original)	Iar când greşeam... Regina mea de gheaţă se transforma într-o fată de la internat cu care începeam să mă bat de la **brânzoaice**. (p. 23)
French version	Mais quand je me trompais... La reine de glace que j'étais redevenait une fille d'orphelinat avec laquelle je commençais de me crêper le chignon. (p. 32)
AI-generated translation	Et quand je faisais une erreur… Ma reine des glaces se transformait en une élève de pensionnat avec laquelle je me disputais à propos de **petits fromages**
German version	Aber wenn ich einen Fehler machte… Da verwandelte sich meine Eiskönigin in ein Mädchen aus dem Internat, mit dem ich mich aus dem tiefsten **Käsekrapfen** meines Seins heraus zu prügeln begann. (p. 27-28)
AI-generated translation	Und wenn ich einen Fehler machte… verwandelte sich meine Eiskönigin in ein Mädchen aus dem Internat, mit dem ich mich wegen **Käsebrötchen** zu streiten begann.
Norwegian version	Og når jeg gjorde feil… ble isdronningen min forvandlet til ei jente på barnehjemmet som jeg hadde begynt å slåss med over noen **ostekaker**. (p. 41-42)
AI-generated translation	Og når jeg gjorde feil... forvandlet min isdronning seg til en internatskolejente som jeg begynte å slåss med om **osteskiver**.

It is well known that orphanages rarely offer much variety when it comes to food, and the *brânzoaice* (cheese pastries) mentioned in Set of examples (Table 2) are probably perceived as a special treat. In other words, in the original excerpt, the struggle over the *brânzoaice*, and the eventual victory in getting them, symbolises a form of power and dominance over the others. In order to grasp the meaning of the source text statement, one needs to be familiar with the social reality of poorer countries such as Moldova, the setting described in the novel. What is portrayed here is, in fact, a struggle for survival. In the French version, the translator shifts the emphasis away from the fight for food toward the physical confrontation among the orphanage residents. To achieve this, the translator uses the idiomatic expression *crêper le chignon*, which conveys the idea of fighting, while avoiding any explicit reference to the *brânzoaice* as the cause of the conflict. Meanwhile, the AI system identifies only one ingredient in the cheese pastries (*brânzoaice),* namely, cheese, and, since the dish itself is unfamiliar in French culture, replaces it with *petits fromages* ("small cheeses"), while preserving the original depiction of the conflict.

In the German version, the translator appears to introduce a humorous or even philosophical allusion through the expression *das tiefste Wesen des Seins* ("the deepest essence of existence"), while substituting the original food item with *Käsekrapfen*, a traditional Tyrolean dish prepared with rye flour, savoury cheese (often sheep cheese), potatoes, and other ingredients, then fried in plenty of oil. Depending on the region, it can be in the shape of a doughnut, a fritter, or a crescent-shaped (half-moon) pastry. It is specifically this dish that the translator associates with the Moldovan *brânzoaice*. The AI tool, however, proposes the term *Käsebrötchen*, a type of yeast bun topped with cheese. Another difference lies in the choice of verb: the AI uses *streiten*, meaning "to argue" or "to quarrel," (which suggests a verbal dispute, sometimes aggressive, rather than a physical fight), while the human translator preserves the equivalent of the Romanian verb "a se bate" ("to fight physically").

In the Norwegian version, the translator uses an analogy based on the shape of the object, namely the word *ostekaker* ("cheese patties"), drawing on parallels such as *kjøttkaker* ("meat patties") or *fiskekaker* ("fish patties"). Nevertheless, for a Norwegian reader, the first association triggered by *ostekake* would most likely be cheesecake. It is therefore highly unlikely that Norwegian readers would imagine a *brânzoaică* as it is known in former Soviet countries. The AI system proposes a pragmatic equivalent similar to the French version: *osteskiver* ("slices of cheese"). In all aforementioned translations, the meaning of the original context is distorted to varying degrees, largely because certain sociocultural realities have been overlooked.

Table 3. Set of Examples from *Grădina de sticlă* byTatiana Țîbuleac

Source Text (Romanian original)	„Du-i lui Zahar", spunea Tamara Pavlovna când cumpăra ouă sau halva, slăbiciunea lui cea mare. (p. 22)
French version	« Apportes-en à Zakhar », m'intimait Tamara Pavlovna, quand elle achetait es œufs ou du halva, son péché mignon. (p. 30)
AI-generated translation	« Donne-les à Zahar », disait Tamara Pavlovna lorsqu'elle achetait des œufs ou du halva, sa grande faiblesse.
German version	»Bring sie Sachar«, sagte Tamara Pawlowna, wenn sie Eier oder **Halwa** kaufte, seine größten Schwächen. (p. 26)
AI-generated translation	„Gib sie Zahar", sagte Tamara Pawlowna, wenn sie Eier oder **Halva** kaufte, seine große Schwäche.
Norwegian version	«Gi den til Zakhar», sa Tamara Pavlovna til meg når hun kjøpte egg og **tyrkisk konfekt**, hans store last. (p. 39)
AI-generated translation	«Gi dem til Zahar», sa Tamara Pavlovna når hun kjøpte egg eller **halva**, hans store svakhet.

The lexeme *halva* designates a confectionery specialty originating from Eastern cultures (India, Iraq, Central Asia), traditionally made from sunflower seeds or sesame/tahini, with various additional ingredients, the product is familiar to different degrees across Europe. It is likely for this reason that, we find the borrowed term (adapted orthographically to the norms of the respective language) in both the French and German translations, as well as in the Norwegian version proposed by AI. Unlike the other versions, the Norwegian translator replaced the original confectionery item with *tyrkisk konfekt*, which refers to *Turkish delight* (*rahat-lokum*), a soft, gelatinous sweet made from starch and sugar. A possible explanation for the translator's choice could be the absence of the lexeme *halva* from the Norwegian explanatory dictionaries, which may suggest that halva is not widely recognised in Norway (though halva can in fact be found in shops specialising in Asian and Eastern European products, where sellers usually provide a short description of the product and its ingredients), unlike rahat-lokum. We could therefore argue that the translator used a form of cognitive equivalence based on "the semantics of the text and the translator's conceptual knowledge, whether grounded in real experience or not" (Lungu-Badea, 2005: 67). Nevertheless, the choice of this "equivalent" results in a complete loss of the original cultural specificity.

A somewhat different situation emerges in the following examples, where we analyse another product name that is extremely popular in Norway: *Grandiosa* pizza.

Table 4. Set of Examples from *Kongeriket* by Jo Nesbø

Source text (original)	Jeg hadde spart penger. Spart hver jævla krone jeg ikke trengte til mat og strøm til å varme opp **Grandiosaene** når jeg ikke spiste middag på stasjonen, til bensin på den gamle Volvoen og til å holde huset sånn noenlunde i stand. (p. 49)
Romanian version	Adevărul este că economisisem bani. Economisisem fiecare coroană de care nu aveam nevoie pentru electricitate, pentru încălzirea unor **pizze uriaşe** în zilele în care nu mâncam la benzinărie, pentru benzina vechiului Volvo sau pentru reparaţiile esenţiale ale casei.
AI-generated translation	Economisisem bani. Economisisem fiecare nenorocită de coroană pe care nu o cheltuisem pe mâncare şi pe curentul electric necesar pentru a încălzi **pachetele Grandiosa** atunci când nu luam cina la gară, pe benzină pentru vechiul Volvo şi pentru a menţine casa într-o stare cât de cât acceptabilă.
English version	I'd been saving up. Saving every damn krone I didn't need for food and electricity to warm up **the king-size pizzas** when I didn't eat my dinner at the station, for petrol for the old Volvo, and to keep the house in a reasonable state of repair. (p. 47)
AI – generated translation	I'd been saving money. Saving every bloody penny I didn't need for food and the electricity to heat up **the Grandiosa pizzas** when I didn't eat dinner at the station, for petrol for the old Volvo, and to keep the house in some sort of decent condition.
German version	Ich hatte Geld gespart. Jede Krone zur Seite gelegt, die ich nicht für Essen oder Strom zum **Pizza**aufwärmen brauchte, für das Benzin für den alten Volvo oder um das Haus einigermaßen in Schuss zu halten. (p. 47)
AI-generated translation	Ich hatte Geld gespart. Jede verdammte Krone gespart, die ich nicht für Essen und Strom zum Aufwärmen der **Grandiosa-Pizzen** brauchte, wenn ich nicht in der Tankstelle zu Abend aß, für Benzin für den alten Volvo und dafür, das Haus einigermaßen in Schuss zu halten
French version	J'avais épargné, mis de côté chaque putain de couronne dont je n'avais besoin pour payer ma bouffe, l'électricité qui réchauffait mes **pizzas Grandiosa** quand je ne dînais pas à la station-service, l'essence de ma vielle Volvo et les travaux pour maintenir la maison à peu près en état. p. 57)
AI-generated translation	J'avais mis de l'argent de côté. J'avais économisé chaque putain de couronne dont je n'avais pas besoin pour manger, pour payer l'électricité nécessaire à réchauffer **mes Grandiosa** quand je ne dînais pas à la gare, pour faire le plein de ma vieille Volvo et pour entretenir la maison tant bien que mal.

The name *Grandiosa* pizza comes from the Italian word "grandioso", meaning grand, excellent, remarkable, or ambitious. This pizza was created and launched by the Stabburet company in 1980. The choice of the name was motivated by the desire to suggest a "grand" meal, even though the product was a frozen pizza. Today, *Grandiosa* functions as a proper noun and a registered trademark. Grandiosa does not produce king-size pizzas, a standard *Grandiosa Original* pizza weighs 575 grams and has a diameter of approximately 28 cm. There are also smaller versions available, such as an individual pizza weighing 375 grams (with a diameter of 25 cm) or even 345 grams. We provide this extended description in order to highlight the translation errors identified in certain language versions. The Romanian translator reproduced the mistranslation from the English version: in both, *Grandiosa* is rendered as "giant" or "king-size" pizza. In the German version, the translator avoids using the proper name and instead describes the

process of reheating the pizzas, indicating that it is a pizza. Only the French translator succeeds in finding an appropriate equivalent, referring explicitly to "réchauffait mes pizzas Grandiosa" ("reheating my Grandiosa pizzas,") thus, rendering the brand name and the reference to pizza.

The situation varies in the AI-generated versions. In Romanian, we encounter AI hallucinations in the syntagm *pachetele Grandiosa* ("the Grandiosa packages"), where the brand name is preserved but its connection to "packages" remains unclear, especially since pizzas are typically sold in cardboard boxes. Nor is it specified that Grandiosa is a pizza brand. Another sense distortion/hallucination is noted in the erroneous translation of the *gas station* as *train station*. In the German version, grammar errors are spotted in the use of the preposition *in der Tankstelle* instead of the correct *an der Tankstelle*. Nevertheless, the AI manages to provide an adequate rendering of the pizza brand name as *Grandiosa-Pizza*. Unlike the human translator, the French AI version retains only the name, using a possessive construction such as *à réchauffer mes Grandiosa*, which ultimately leaves unclear what *Grandiosa* refers to. We find the same error in the translation of *gas station* as *train station*. Most likely, in both cases, the AI selected the primary meaning typically associated with the word *station*. On the other hand, we note that, in English, the AI produced a more successful solution than the human translator by referring to *the Grandiosa pizzas*. At the same time, an interesting difference appears in the use of currency. The human translator kept the Norwegian currency through *damn krone*, while the AI adapted the currency to a British context with *bloody penny*. The translators' and AI systems' choices of equivalents are determined by the translation strategy adopted in each case: the human translator wants to preserve local colour by borrowing the Norwegian term, while the AI adapts the entire excerpt to British cultural reality, favouring the domestication strategy, which is specific for LLMs.

Symbols and connotations oscillate at the very limits of translation, which refers to linguistic expression, as well as to the "things" designated by the corresponding lexical items (Coşeriu, 1998: 21). Quite often, symbols or connotations are implicit in the source text, making their transfer more difficult. To better understand the translator's behaviour in such situations, we turn to Eugenio Coseriu's distinction between genuine/true translation and the so-called "translation of languages." The scholar rightly argues that, in the case of genuine translation, everything expressed through one language can also be expressed through another language. However, this does not imply the universality of meanings, nor the translation of languages as systems, since languages merely function as means, as a tool in the translation of texts (Coşeriu, 1998: 21-22). Translation equivalences are therefore, above all, equivalences between *signifiés*, that is, between mental concepts, meanings to which the form refers, and textual contents (Coşeriu, 1998: 24) that the translator must understand in depth in order to find an adequate solution in the translation process. Unfortunately, in the translation of symbols and connotations, things sometimes drift in the wrong directions. By comparing the choices made by human intelligence (HI) and artificial intelligence (AI), we may identify a number of broader tendencies regarding the actor's rationale in the selection of translation equivalents.

Table 5. Set of Examples from *Kongeriket* by Jo Nesbø

Source text (original)	Og om Carl hadde rett og de millionene vi subba inn nå, bare var **toppen av kransekaka** som alle deltagerne i bygda etter hvers skulle dele, var det greit for meg. (p. 52)
Romanian	Și dacă fratele meu avea dreptate, iar milioanele care ne-ar fi revenit ar fi fost

version	doar **glazura de pe tortul** din care se va înfrupta pe viitor fiecare participant din sat, n-aveam nimic împotrivă.
AI-generated translation	Şi dacă Carl avea dreptate şi milioanele pe care le-am băgat acum erau doar **cireaşa de pe tort** pe care toţi locuitorii satului urmau să o împartă între ei, mie îmi era de ajuns.
English version	And if Carl was right and the millions we were about to scoop up were just **the icing on a cake** that every participant in the village would have a share in in due course, that was fine by me. (p. 49)
AI-generated translation	And if Carl was right, and the millions we were churning in now were just the **icing on the cake** that all the villagers were to share out among themselves, that was fine by me.
German version	Wenn Carl recht hatte und die Millionen, die wir einsackten, wirklich nur **die Kirschen auf dem Kuchen** waren, den sich alle im Dorf teilen sollten, war das für mich in Ordnung. (p. 49)
AI-generated translation	Und wenn Carl Recht hatte und die Millionen, die wir jetzt hineinsteckten, nur die **Kirschen auf dem Sahnetorte** waren, die sich alle Beteiligten im Dorf nachher teilen sollten, war das für mich in Ordnung.
French version	Si Carl avait raison, les millions que nous raflerions ne seraient que **la cerise sur le gâteau** que tous les associés allaient partager, ça m'allait. (p. 60)
AI-generated translation	Et si Carl avait raison et que les millions que nous venions d'investir n'étaient que la **cerise sur le gâteau** que tous les habitants du village allaient se partager à parts égales, ça me convenait.

In Norwegian and Danish culture, *kransekaka* is a traditional dessert made from ingredients such as almond flour (or finely ground almonds), powdered sugar, and egg whites. It takes the form of a tall tower made up of multiple rings (usually eighteen) of varying sizes, stacked one above another, gradually decreasing in size toward the top. The most important symbolic aspect in the cultural framework, one which the translators should have focused on, is that *kransekaka* is served during major celebrations, such as weddings, baptisms, Christmas, or Norway's National Day. The translators proposed the following equivalents: Romanian - *glazura de pe tort* ("the icing on the cake"); English - *the icing on the cake*; German and French - *the cherry on the cake*. The AI systems generated the following renderings: Romanian - *cireașa de pe tort* ("the cherry on the cake"); English - *icing on the cake*; German - *the cherry on the cream cake / whipped-cream cake*; French - *the cherry on the cake*. The analysis of all the translated versions reveals the loss of cultural specificity and resonance, since neither the human translators nor the AI systems succeeded in identifying the symbolic connection between this dessert, served at important events, and the context of the Set of Examples (Table 5). The excerpt refers to the possibility of obtaining an important sum of money, presented as an event worthy of such a prestigious dessert.

Table 6. Set of examples from *Kongeriket* by Jo Nesbø

Source text (original)	Ja, det går enten veldig fort opp eller litt saktere opp. Kaffe? **En solskinnsbolle**? (p. 31)
Romanian version	– Da, creşte foarte repede, fie nu prea repede. Cafea? **O şarlotă**?
AI-generated translation	Da, creşte fie foarte repede, fie puţin mai încet. Vrei o cafea? Sau o **chiflă cu unt**?
English version	Yes, it either goes up very quickly or not quite so quickly. Coffee? **Custard bun**? (p. 27)

AI-generated translation	Yes, it's either going up very quickly or a bit more slowly. Coffee? **A sun-kissed bun**?
German version	Tja, mal geht es sehr schnell, mal deutlich langsamer. Kaffee? **Ein Teilchen?** (p. 30)
AI-generated translation	Ja, es geht entweder sehr schnell bergauf oder etwas langsamer bergauf. Kaffee? **Ein Sonnenbrötchen**?
French version	– Oui, soit ça montre très vite, soi ça montre un peu plus lentement. Café? **Viennoiserie** ? (p. 38)
AI-generated translation	Oui, ça monte soit très vite, soit un peu plus lentement. Un café ? **Un petit pain au soleil** ?

Solskinnsbolle (literal meaning "sunshine bun" in Norwegian) is a traditional sweet bun baked from dough flavoured with cardamom and topped with icing. It looks like a cinnamon roll, with a spoonful of vanilla custard added in the centre, so that the bun becomes a symbol of the sun. According to the Norwegian tradition, these buns are served to celebrate the return of the sun (around January 21st) or at the beginning of March. *Solskinnsbolle* is usually served with coffee and is considered part of the Scandinavian concept of *hygge*, which refers to a state of well-being, comfort, and inner peace rooted in enjoying simple pleasures of life.

Languages do not necessarily use the same terms to refer to the same meaning. Therefore, the translator must prove a thorough understanding of the sociocultural reality involved and shall apply pragmatic equivalence for an appropriate choice. Therefore, the example from Table 6 requires a familiarity with Norwegian gastronomic traditions, which are often closely connected to and describing phenomena found in nature. We would highlight that, among the versions available for this excerpt, the English translator proposed the closest equivalent for *solskinnsbolle* - *custard bun*, which in English refers to a sweet roll filled with custard and often topped with icing and coconut. Interestingly, the chosen equivalent corresponds to another Norwegian pastry called *skolebrød*, similar to *solskinnsbolle* in shape. By contrast, the AI tool generated a descriptive translation *sun-kissed bun* which would sound bizarre for natives and probably not grasped by the foreign audience.

The translators into German and Romanian simply opted for cultural adaptation referring in their translations to locally known pastries in the respective societies. The Romanian text displays the equivalent *șarlotă* (from the French *charlotte*), although it does not render the form or the actual composition of the original pastry (*charlotte* refers to a cold or warm dessert made from cream, milk, eggs, sugar, whipped cream, and gelatine, often combined with fruit and usually served in a special pan lined with ladyfingers or sponge cake slices). The AI tool used preserves the pastry's form "bun." In German, the translator opted for the lexeme *ein Teilchen*, thus referring to a small sweet pastry the size of a palm, rendering the idea of a small bun. The AI, however, provides an erroneous (hallucinated) non-existent variant *ein Sonnenbrötchen* ("a sun bun"). The French translator uses *viennoiserie*, a term used for luxury baked goods well-known in French-speaking cultures, thus generalising and losing the symbolic significance associated with the original pastry: AI into French offers another hallucinated (descriptive translation) expression: *un petit pain au soleil* ("a little sun bread").

These examples demonstrate that even when translators fully grasp the meaning of the source text in all its details and shades, they do not always master the necessary linguistic material to generate an equivalent text in the target language. Moreover, the

pragmatic framework changes with every translation and retranslation. In this regard, Marc Launay argues that translation and retranslation are historically inextricably linked and inseparable from the constant transformation of the relationship between past and present, while attempting to anticipate the future; translation thus lies somewhere between experience and expectation (Launay, 2006: 52).

We often refer to the "untranslatable" when a translator seems to be unable to interpret or rewrite certain texts or constructions in the target language; yet we cannot exclude the possibility of another translator succeeding to find a creative solution for a successful rendering of the source meaning. Properly guided by the translator, AI could serve as a support tool in the search for solutions to difficult translation issues in various circumstances, as the untranslatable is nothing more than a temporary impossibility to provide a solution, be it because of a language-specific structure or because of a certain culturally bound element (realia). The answers and solutions to such challenges may take different forms, through the use of translation strategies, such as explanation, description, cultural adaptation, or translator's notes, the latter sometimes provided in the form of a lengthy text that effectively excludes the need to translate the problematic segment from the original text.

In previous publications, we addressed the issue of using the space around the main body of the text, a space addressed by scholars interested in additional commentaries and materials to the core text. Gérard Genette famously proposed a broad range of terms in this respect, and specifically the concept of "paratext" (Genette, 1979; 1982; 1987). We found that the paratext is an effective pragmatic tool, a space that facilitates the dialogue between the translator and the recipients of the target text; it allows for the adaptation of the literary text at interlinguistic, semiological, chronological, social, and cultural levels without compromising the integrity of the original text (Zbanț C., 2008: 119–123). Moreover, the explanatory notes added by the translator or the editor may sometimes be regarded as signs of partial or even total failure; for this reason, it is advisable to avoid excessively numerous or overly detailed (lengthy) notes. On the one hand, they impose the translator's own interpretation and deprive the readers of their personal understanding of the text. On the other hand, the multiple explanations inserted into the paratextual space may distract the reader from the narrative flow of the work. There are cases in which the translator's or editor's notes mislead the reader as they do not explicitly refer to the contextual meaning.

In Table 7, we included an excerpt showing multiple translation challenges. Tatiana Țîbuleac (the author) adds an explanatory note trying to bring the reader closer to the social reality described in the source text, a reality marked by constant linguistic interference between Romanian and Russian. The author reproduces, with an audio-recording precision, the communicative practices characteristic of Moldovan society during the period depicted in the novel. The use of multilingual stratification in the source text is not decorative, structural or lexical, it is a deliberate choice to encode power, identity and sometimes trauma. As a result, the translator simultaneously faces multiple alternatives and difficulties in strategically approaching intertextual transfer, the rendering of tone, identity and voice, including decisions on the use and management of explanatory notes (footnotes).

Table 7. Set of Examples from *Grădina de sticlă* by Tatiana Țîbuleac

Source Text (original)	Lapte şi pâine îi cumpăra бедная* Tonea, brânză îi aducea Galea, iar restul - un **borş**, un **cartof copt**, un **deget de salam** - îi trimiteau femeile pe rând (p. 22). *Sărmana
French version	Le lait et le pain, c'était **бедная[1*] Tonia** qui les lui achetait ; le fromage, c'était Galia qui le lui apportait ; et le reste - un bortsch, **une pomme de terre en robe des champs**, **une tranche de salami** -, les autres femmes lui en faisaient parvenir, chacune leur tour (p. 30). [1*] La pauvre
AI-generated translation	La pauvre* Tonea lui achetait du lait et du pain, Galea lui apportait du fromage, et le reste - un **bortsch**, une **pomme de terre cuite**, un **morceau de salami** - lui était envoyé tour à tour par les femmes. *La pauvre
German version	Milch und Brot kaufte ihm ***bednaja Tonea***, **die arme Tonja**, Käse brachte ihm Galea, und den Rest - **einen Borschtsch**, eine **gebackene Kartoffel**, **einen Fingerbreit Salami** - schickten ihm die Frauen reihum. (p. 26)
AI-generated translation	Milch und Brot kaufte die arme* Tonea, Käse brachte Galea, und den Rest – einen **Borschtsch**, eine **B Bratkartoffel**, ein **B Stück Salami** – schickten ihr die Frauen abwechselnd. *Die Arme
Norwegian version	Melk og brød kjøpte ***bednaja**** **Tonea** til ham, **ost** fikk han av **Galea**, og resten - for eksempel **borsjtsj**, en **bakt potet**, en **klype salami** - skaffet damene ham etter tur. (p. 39) *Stakkars
AI-generated translation	(1) **Melk** og **brød** kjøpte den **fattige** Tonea, **ost** fikk hun av Galea, og resten – en **borsjtsj**, en **bakt potet**, en **bit salami** – sendte kvinnene henne etter tur. (2) Den **stakkars** Tonea kjøpte melk og brød, Galea kom med ost, og resten – en **borsjtsj**, en **bakt potet**, en **bit salami** – sendte kvinnene henne etter tur. *Den stakkars

With regard to the translation of Russian lexemes present in the source text (in Romanian), we note the use of different strategies, although borrowing and transcription (transliteration) is most frequently used. The French translator keeps the same French-Russian hybridised text, rendered via a mixture of Latin and Cyrillic alphabets, borrowing the Russian adjective "бедная" from the source text, with a note to the translation into French *La pauvre. In the German version, the translator expands by first introducing a German transcription (italicised) of the Russian word (*bednaja Tonea*), adding the German *die arme Tonja* for a better understanding and cultural appropriation to the target audience. In Norwegian, the translator keeps the Russian lexemes in italics and subsequently provides their translation in footnotes. AI, by contrast, flattens the multilingual interference, does not preserve the hybrid form of the original text and, thus, translates the entire passage into the target language, including the Russian structures. Moreover, we find that AI confuses some of the ideas expressed in the original and produces erroneous translations/hallucinations. In the German version, for example, the translation suggests that poor Tonea was buying milk and bread for herself, while Galea was buying her cheese, and that the women were also bringing *her* borscht, salami, and other products. In addition, the German AI version inexplicably introduces the capital letter "B" twice, without any apparent meaning or function.

The footnote included by Tatiana Țîbuleac refers to a person commonly described as *бедная* (*bednaya*) Tonea. Even the original text generates a semantic ambiguity because the Russian adjective *бедная* may denote both the idea of "poor" and that of "pitiful", "miserable" or "unfortunate." Unlike German, where the equivalent adjective preserves this same dual meaning, in Romanian (*sărac*, *sărman*) and Norwegian (*fattige*, *stakkars*) the translateor faces the dilemma of choosing between two distinct, though semantically related, lexemes. French deals with the semantic distinction through word order: the adjective *pauvre* placed before the noun conveys the meaning of "poor/unfortunate," while in post-position it refers to economic poverty. In this fragment, AI translation into French renders the meaning "pitiful/unfortunate" by placing the adjective before the noun and then redundantly repeats the same meaning in the footnote. A similar version is generated by AI into German. Compared with the human translator, who settles on one meaning of the adjective (*stakkars* - "poor/unfortunate") in Norwegian, the AI proposes two separate variants, each reflecting only one possible meaning, leaving the final choice to the translator during the post-editing stage.

When translating lexemes designating dishes specific to traditional Moldovan cuisine with a symbolic value for the daily life in the period of the Soviet Union, the translators show varying degrees of creativity, while generally favouring expressions and realia more familiar to their target audiences (domestication and cultural adaptation translation techniques). The term *borș* is borrowed in all versions, though adapted orthographically (transcription) and grammatically to the norms of each language: French - *un bortsch*; German - *einen Borschtsch*; Norwegian - *borsjtsj*. The food item *cartof copt* ("baked potato"), a relatively ordinary expression in Romanian, is rendered literally into German and Norwegian, with both HI and AI rendering it via calque (*gebackene Kartoffel* / *bakt potet*). In French, however, the human translator creatively expands it into *une pomme de terre en robe des champs*, while AI proposes the neutral *une pomme de terre cuite*. A particularly revealing situation emerges in rendering the lexeme *salam*, which unexpectedly became the source of numerous translation errors and hallucinations, i.e. all (HI and AI) rendered the term as *salami*, although this word refers to a specific variety of cured sausage produced in the Italian tradition. The more appropriate equivalents corresponding to the Romanian notion of *salam* would be: French - *saucisson*; German - *Wurst*; and, Norwegian - *pølse*.

We attempted to synthesise the main semantic and usage differences of the lexeme "salam" in each language in Table 8 below. This example shows the kind of support AI can provide when searching for translation equivalents, since the table itself was generated by the algorithm in response to the translator's request for a more detailed clarification of the semantic range of the lexeme across the working languages used in our study.

Table 8. AI-generated translations and explanations for the lexeme "salam"

Language	Lexeme	Culinary meaning	Comments
French	saucisson	Dry salami/cured sausage	general term referring to dried processed meats. In French, "saucisson" may comprise varying types of cured meat that would not be called or referred to as "salam" in Romanian.
French	salami	Italian-style salami	Used mainly to refer to Italian variety of salami
German	Salami	Dry/sliced	A generic term covering many varieties of salami. In

		salami	German and Norwegian, "salami" corresponds to the product Romanians/Moldovans refer to as "salam".
Norwegian	salami	Salami used for sandwiches or pizza	A usage close to German and English culinary conventions.

Had the translators had access to this information, they would most likely have avoided the errors identified in the examples in Table 7.

The benefits of human-machine collaboration become even more evident in the translation of emotionally charged vocabulary, evaluative language, comparisons, and other expressive and stylistic forms, areas in which AI still appears to encounter difficulties. In the following example (Table 9), we analyse several categories of affective language, including comparisons, metaphors, slang, and vulgar or taboo vocabulary.

Table 9. Set of examples from *Kongeriket* by Jo Nesbø

Source text (original)	Det var ikke det at hun ikke var søt, for det var hun vel, med det var ikke **et *støkke***, som de sier rundt her. (p. 16)
Romanian version	Nu că n-ar fi fost drăguță, pentru că de fapt era, dar nu era o **„bunăciune"**, așa cum obișnuiesc să spună oamenii de prin părțile astea.
AI-generated translation	Nu era vorba că nu era drăguță, pentru că era, dar nu era **o *tipă pe cinste***, cum se spune pe aici.
English version	It wasn't that she wasn't sweet, because she actually was, but she wasn't ***a smasher***, as people round here say. (p. 12)
AI-generated translation	It wasn't that she wasn't cute—because she certainly was—but she wasn't **a *stunner***, as they say around here.
German version	Sie war ganz süß, aber eben nicht so **ein Feger**, wie man hier in der Gegend sagt. (p. 15)
AI-generated translation	Es war nicht so, dass sie nicht hübsch war, denn das war sie wohl, aber sie war kein richtiges **Schönheitsideal**, wie man hier so sagt.
French version	Ce n'était pas qu'elle n'était pas mignonne, sûrement pas, mais ce n'était pas **un *morceau***, comme on dit par ici. (p. 19)
AI-generated translation	Ce n'est pas qu'elle n'était pas mignonne, car elle l'était bien, mais ce n'était pas **une *bombe***, comme on dit par ici.

The set of examples in Table 9 provides a picture of both human translator's and AI creativity, since it involves slang lexemes requireing to identify equivalents within the same register while also conveying the meaning of the original. The Romanian translator opted for the lexeme *bunăciune (goody)*, an informal, slang vocabulary concept used here to describe a physically very attractive woman; moreover, within the given context, it carries an offensive undertone (connotation), reducing the person to a sexual object. Likewise, the AI system generated a successful equivalent through *o tipă pe cinste ("a real stunner")*, an expression belonging more to colloquial familiar register than to strong slang, and therefore more neutral than the translator's choice. In English, the translator uses the British slang term *a smasher*, referring to a very attractive person. The AI generates a translation using the informal layer via *a stunner*, used informally to describe an extremely attractive person, especially a woman, or something really impressive, beautiful, or surprising (https://dictionary.cambridge.org/dictionary/english/stunner). The translator into German renders it via the informal and slightly pejorative concept *der Feger*, used to

describe a very attractive woman with sex appeal. AI, by contrast, opts for the more neutral *Schönheitsideal* ("ideal of beauty"), which does not fully convey the original idea of a sexually "attractive woman". In the French version, both the human translator and AI use slang expressions. The translator uses *un morceau-* une belle et vilaine fille, referring to "a beautiful and naughty girl," while the AI proposes *une bombe* - une beauté, une femme superbe ("a bombshell"), meaning "a beauty" or "a stunning woman." In the AI-generated version, however, the meaning is reduced to the girl's physical attractiveness. Overall, the description of the person in the source text is preserved across the analysed translations, since all versions show a favouring of the colloquial layer, familiar or slang language. The variation is registered in the evaluative semantic shades emphasised in each case, we refer to physical beauty, sexuality, boldness, or provocative behaviour.

Table 10. Set of examples from *Kongeriket* by Jo Nesbø

Source text (original)	Reglene på andre døgnåpne stasjoner er at nattevakter som er aleine, ikke forlater stasjonsbygninga, men jeg hater rot, og med **rånergjengen** som bruker stasjonen som kombinert **pølsebrød, røykeplass og hekkested**, blir det mye papir, sneiper og ja, en og annen brukt kondom. (p. 24)
Romanian version	La celelalte staţii non-stop de benzină regula este ca angajaţii din tura de noapte care lucrează singuri să nu părăsească clădirea, însă eu urăsc dezordinea şi, de când **gaşca de vitezomani cu maşini de fiţe** a început să vină aici şi să folosească benzinăria ca pe o combinaţie **de fast-food, fumoar şi loc de rendez-vous**, întotdeauna se adună o tonă de hârtie, mucuri de ţigară şi, mda, până şi câte un prezervativ folosit.
AI-generated translation	La alte secţii deschise non-stop, regulile prevăd ca paznicii de noapte care sunt singuri să nu părăsească clădirea secţiei, dar eu urăsc dezordinea, iar cu **gaşca de hoţi** care foloseşte secţia pe post de **loc de mâncat hot-dog, zonă de fumat şi loc de întâlnire**, se adună o grămadă de hârtie, mucuri de ţigară şi da, câte un prezervativ folosit.
English version	The rule at other all-night stations is that night-duty attendants working alone don't leave the building, but I hate mess and **with the boy racer gang in their custom cars** using the place as a combination **fast-food shop, hangout for smokers and lover's lane** there's always a lot of paper, butt ends and, yeah, even the odd used condom. (p. 21)
AI-generated translation	The rules at other 24-hour stations are that night guards working alone aren't allowed to leave the station building, but I hate a mess, and with the **gang of hooligans** using the station as a combined **hot dog stand, smoking area, and hangout spot**, there's a lot of paper, cigarette butts, and yes, the occasional used condom.
German version	Generell gilt bei rund um die Uhr geöffneten Tankstellen, dass die Nachtschicht das Tankstellengebäude nicht verlässt, wenn sie allein ist. Aber ich hasse Chaos, das **die jugendlichen Råner** hinterlassen, für die die Tankstelle gleichzeitig **Treffpunkt, Würstchenbude und Balzplatz** ist. Immer fliegt Verpackungsmüll herum, Zigarettenkippen, manchmal sogar benutzte Kondome. (p. 23)
AI-generated translation	An anderen rund um die Uhr geöffneten Bahnhöfen gilt die Regel, dass Nachtwächter, die alleine sind, das Bahnhofsgebäude nicht verlassen dürfen, aber ich hasse Unordnung, und da die **Räuberbande** den Bahnhof als eine Mischung aus **Imbiss, Raucherzone und Treffpunkt** nutzt, sammelt sich jede Menge Papier, Zigarettenkippen und ja, auch das eine oder andere benutzte Kondom an.

French version	Dans d'autres stations ouvertes vingt-quatre heures sur vingt-quatre, la règle est de ne pas sortir de la boutique quand on est seul en service de nuit, mais j'ai horreur du désordre et, avec **les tuneurs** qui utilisent la station-service come **baraque à hot-dogs, fumoir et baisodrome combinés**, il y a beaucoup de papiers et de mégots, voire un ou deux préservatifs usagés. (p. 29)
AI-generated translation	Dans les autres gares ouvertes 24 heures sur 24, le règlement stipule que les gardiens de nuit qui sont seuls ne doivent pas quitter le bâtiment, mais je déteste le désordre, et avec cette **bande de voyous** qui utilise la gare à la fois comme **snack-bar, zone fumeurs et lieu de rendez-vous**, il y a beaucoup de papiers, de mégots et, eh bien, de temps en temps un préservatif usagé.

The example in Table 10 depicts a context tied to a well-known Norwegian reality, namely the gas station as a social gathering place and the people who spend time there on a regular basis. The excerpt reveals the local cultural context through the use of slang language to describe a group of young people, *rånergjengen*, and their typical "activities". A *råner* is a young person whose hobby and lifestyle revolve around cars (often older Volvo or Mercedes models) which they upgrade (fine-tune) and drive around without any specific destination. They gather in set locations such as gas stations and belong to a car-centered subculture widespread in Norway, Sweden, and Finland.

The lexeme *rånergjengen* thus becomes the key element to decipher and grasp the implicit meaning in the entire fragment. Judging from the equivalent proposed by the Romanian translator - *gașca de vitezomani cu mașini de fițe* ("the gang of speed freaks with flashy/fancy cars") - we may conclude that the translator researched the phenomenon thoroughly and opted for a descriptive translation strategy. Nevertheless, the Romanian version was influenced by the English translator's solution, providing the reader with the information (necessary to decode the hidden meaning), though in a somewhat distorted form, since a *råner* is not in its essence a "speed addict". On the contrary, members of this subculture respect road speed limits; their passion lies in driving customised (tuned-up) vehicles adapted to their taste. AI, however, has erroneously rendered/ hallucinated in this case, generating the expression *gașca de hoți* ("a gang of thieves"), which does not convey to the originally intended meaning thus missing the pragmatic and communicative effect.

In the English version, the translator similarly applies descriptive translation through the phrase *the boy racer gang in their custom cars*. This is only partially correct as *råner* are indeed young people who own modified or customised cars, but they are not "racers." Their aim displaying their customized vehicles, driving from one gas station to another, and spending time with their mates. The AI system generates an erroneous translation calling them a *gang of hooligans*.

In the German version, *die jugendlichen Råner*, the translator borrows the term *Råner*, adapting it to German orthographic norms, according to which all nouns are capitalised, and specifies that they are young people. Since there is no such term (*råner)* in general use in Germany, as it refers specifically to a Norwegian subculture, it is unclear why the translator chose to borrow the original word without any further explanation. In this case, AI generates a hallucination through *Räuberbande* ("a gang of robbers"), while also mistranslating the *gas station* as *Bahnhof* ("train station"). In French, the translator found an appropriate equivalent, most probably because France also has youth groups with similar interests: *un tuneur* (or *tuneuse*) refers to a car enthusiast who customizes their vehicles

extensively, the term deriving from the English verb *to tune*. By contrast, AI generates the same hallucination found in the Romanian target text: *bande de voyous* ("a gang of thugs").

Their behaviour is also described dynamically through a sequence of actions, linguistically combining slang vocabulary and Anglicisms. We note that tot all translated versions preserve the dominant informal register from the original, i.e. in the human-generated, and especially the AI-generated target texts, there is a tendency toward neutralization. It seems that only the French translator descriptively renders/details the nature of these gatherings, especially since the source text specifies that used condoms could sometimes be found there. This choice likely stems from the fact that the original Norwegian text, as well as its German version, uses the term *hekkested* / *Balzplatz*, which in its primary sense belongs to ornithological terminology and refers to the place where male birds compete for females during mating season. In informal register, slang or pejorative usage, these words refer to places where people, usually men, ostentatiously display themselves in order to show off and impress potential partners. The English translator uses the phrase *lover's lane*, referring to a secluded place visited by couples for kissing, cuddling, and other intimate activities. Respectively, the German translator is closest to the original meaning, while the French and English translators render certain aspects of the source text actions described, but omitting the competition for attention, rendered by the Norwegian lexeme *hekkested*.

AI renders it into German and English as *Treffpunkt* / *hangout spot* ("meeting place"), via generalization technique (a location that does not necessarily imply intimate encounters). In the original, we find: *pølsebrød, røykeplass og hekkested*, rendered into Romanian as "a combination of fast-food stand, smoking area, and rendezvous spot", rendered by AI as "a hot-dog eating place, smoking area, and meeting spot", rendered into English as "a combination fast-food shop, hangout for smokers and lover's lane", by AI as "a combined hot dog stand, smoking area, and hangout spot"; rendered into German as *Treffpunkt, Würstchenbude und Balzplatz* and by AI as *Imbiss, Raucherzone und Treffpunkt nutzt*; rendered into French as *baraque à hot-dogs, fumoir et baisodrome combinés* and by AI as *snack-bar, zone fumeurs et lieu de rendez-vous*.

Another issue faced when dealing with texts with emotional or evaluative language concerns the use of vulgar or taboo vocabulary, a constant challenge for translators. Furthermore, we feel that this raises questions regarding the ethical limitations imposed on AI systems when generating responses based on the translator's prompts. AI tools are implicitly trained to generate polite and respectful language, and may sometimes refuse to provide answers, or generally standardize the register in the target text. Jo Nesbø's text is given an 18+ marker, implying from the outset the presence of sequences with explicit or vulgar language; thus, the translator must carry out his research in this layer of language use in the transfer process and establish the limits to which they are prepared to go in reproducing/rendering such vocabulary and stylistic effect in the target text.

Table 10. Set of examples from *Kongeriket* by Jo Nesbø

Source text (original)	«**Men faen da**,» sa jeg. «Hvorfor har du ikke fortalt meg et det er dette du kom tilbake for?» (p. 42)
Romanian version	– **Pentru numele lui Dumnezeu**, am continuat eu, de ce nu mi-ai spus că ăsta a fost motivul pentru care te-ai întors?
AI-generated translation	„**Dar, la naiba**", am spus eu. „De ce nu mi-ai spus că pentru asta te-ai întors?"

English version	'But **for chrissakes**,' I said, 'why didn't you tell me this was what you were coming back for?' (p. 39)
AI-generated translation	"**Bloody hell**," I said. "Why didn't you tell me this was what you'd come back for?" "**Damn it**," I said. "Why didn't you tell me this was why you came back?"
German version	»**Verdammt**«, sagte ich. »Warum hast du mir nicht gesagt, dass du deswegen zurückgekommen bist?« (p. 40)
AI-generated translation	„**Verdammt noch mal**", sagte ich. „Warum hast du mir nicht gesagt, dass du deswegen zurückgekommen bist?"
French version	« **Mais merde, quoi**. Pourquoi tu ne m'as pas dit que c'était pour ça que tu étais rentré ?» (p. 50)
AI-generated translation	«**Mais bon sang**, dis-je. Pourquoi tu m'as pas dit que c'était pour ça que tu étais revenu ? »

Faen is the most commonly used swear word in Norwegian. It is a shortened form of the word *fanden*, "the devil," "Satan", a taboo word in religious discourse. *Faen* is most often used to express frustration, surprise, irritation, anger, or to intensify a question or statement. It is surprising that the English translator opted for the equivalent *for chrissake* ("for Christ's sake"), and that this rendering was later adopted by the Romanian translator as well. We may assume that, had the Romanian translator worked directly from the Norwegian original, a different choice might have been made. The other translations stylistically render the sphere of vulgar or colloquial language: the German version uses *Verdammt* ("damn," "damned," "hell"), while the French translation uses *merde*, a word widely used in various situations expressing dissatisfaction, irritation, or anger toward a person, action, or circumstance.

AI-generated version for Romanian target text used the equivalent *Dar, la naiba* ("But, damn it"), which is an appropriate rendering of the original. Two variants were generated in English: the British English *Bloody hell* and the American English *Damn it*, both appropriate to the source text register. In German as well, both the human translator and the AI provide suitable equivalents from the same stylistic register as the original: *Verdammt / Verdammt noch mal.*

From the analyses (of the aforementioned examples) of the translation strategies and procedures applied by HI in comparison to AI-generated outputs, we can draw several key conclusions. Both actors involved in the translation process strive to render the culturally marked target-text elements as closely as possible to the original, sometimes at the risk of confusing literalness with accuracy. However, AI is still insufficiently developed to translate literary texts, where the degree of standardisation characteristic of specialized texts is absent.

Furthermore, in the attempt to reproduce the informational content of the source text as faithfully as possible, imprecisions, mistranslations and even errors are generated; at times, we find that translators allow for excessive freedom in handling the source material. Irina Mavrodin criticized situations in which translators allow themselves too much liberty: "If the translator, caught in the whirlwind of the intoxication of infinite authorial freedom, allows himself [...] every possible choice, with the original remaining merely a pretext for a new text, then the result is disastrous for the very idea of translation, and often disastrous in itself, becoming a sort of hybrid monstrosity." Only if the translator knows how to limit this freedom can the result be truly successful (Mavrodin, 2006: 15–16). The transfer of cultural details, as reflected in the analyses of the selected

corpus of examples, is marked by procedures of simplification or removal of cultural specificity, through the replacement of culture-bound elements with semantically or functionally approximate equivalents, however not always successful, for which AI, in turn, generates erroneous/hallucinatory structures. Nevertheless, several AI-generated versions proved more successful, particularly in the cases involving factual equivalents, such as the conversion of units of measurement.

We thus return to Paul Ricoeur's insights on translation, more specifically on avoiding the antinomy of the translatable versus the untranslatable and on reassessing the practical nature of the fidelity/betrayal dilemma. As Ricoeur argues, "il n'existe pas de critère absolu de ce qui serait la bonne traduction. Ce critère absolu serait le même sens, écrit quelque part, au-dessus et entre le texte d'origine et le texte d'arrivée. Ce troisième texte serait porteur d'un sens identique supposé circuler du premier au second. D'où le paradoxe, dissimulé sous le dilemme pratique entre fidélité et trahison: une bonne traduction ne peut viser qu'à une équivalence présumée, non fondée dans une identité de sens démontrable, une équivalence sans identité." (Ricoeur, 2016: 42). We understand that, the philosopher argues once again in favour of the possibility of translation, a possibility grounded in translators' intent and efforts to achieve an approximately equivalent target meaning, while aware that interpretations of the original may vary from one translator to another. Everything depends on the way the translator grasps and interprets the in-depth source text structure. AI can provide supportive tools at different stages of the translation process, and, through its assistance, help ensure that the translator becomes "an ingenious strategist of the reception of the translation he or she brings into circulation" (Mavrodin, 2006: 16).

Conclusions

The application of the game theory to translation, including literary translation, largely centres on finding the optimal solution. For this reason, it would be appropriate to acknowledge that translation is, in most cases, pragmatic, as the translation strategy must be adapted to a framework encompassing a specific chronological, social, cultural, and ideological reality.

The role of the original (source) text cannot be disregarded, as well as the role of the target readers, who apply their own cognitive, encyclopaedic, cultural, and ideological perspective onto the interpretation of the translated text within the target system. A successful translation does not imply the production of a single version, especially since a literary work may be interpreted from multiple perspectives and in close relation to the translator's intentions, themselves anchored in the materiality of both the source language-culture and the target language-culture.

Most translation difficulties are to be faced in the psychological sphere, particularly in relation to emotions, judgments, and evaluations. This is a specific dimension of the cultural language use and often lies at the very limits of intercultural transferability. The translator is therefore invited to conduct additional research and documentation in order to avoid the dangers of relying on superficial information, and to search, within the deeper structures of meaning, for possible affinities between contexts strongly marked by national and cultural specificity.

Both the human translator and AI systems are found in situations requiring them to identify, invent or create equivalent responses to reproduce the individual style of the original author. A comparative examination of human and machine-generated translations

encourages critical readings of the proposed versions and may provide valuable support for final target text improvement, bringing it as close as possible to the source text information. In the end, every translation is a relative construct, shaped by the compromises accepted within the "game" of translation in order to reach a balance among all participants and beneficiaries in the game.

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