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When Humor is Preserved or Lost: Evaluating ChatGPT and Gemini on Culture-Specific Humor Translation Strategies

Ketika Humor Terjaga atau Hilang: Evaluasi Strategi ChatGPT dan Gemini dalam Menerjemakan Humor Bermuatan Budaya

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ABSTRACT

Preserving humor effects that arise from flouting conversational principles in culture-specific texts presents specific difficulties when translating regional languages deeply rooted in linguistic and cultural variation. This type of humor depends on complex linguistic, cultural, and situational contexts, resulting in difficulty in replicating the same effect in the target language. This study investigates humor translation strategies and translation quality of two advanced AI language models, i.e., ChatGPT 4.0 and Gemini 2.5, in rendering culture-specific humor that deliberately violates Grice's maxims of cooperation and Leech's politeness principles. The study focuses on translations from Sundanese into English using 20 humorous texts selected from Cangehgar, a well-known Sundanese humor anthology characterized by deliberate violations of conversational and politeness principles. Chiaro's four-option humor translation framework is employed to identify the strategies used, while Larson's scales of clarity, accuracy, and naturalness are applied to evaluate translation quality. A descriptive qualitative approach is adopted, in which the selected humorous texts were purposively sampled based on their clear instances of flouting conversational and politeness principles. The findings indicate that while both models employ distinct translation strategies, their effectiveness in preserving the humor's original intent varies. ChatGPT establishes stronger capability in maintaining the structure and essence of humor in the punchlines, whereas Gemini's adaptations tend to dilute the comedic impact. This study contributes to the growing academic discourse on AI's role in humor translation and its broader implications for cross-cultural communication.

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ABSTRAK

Mempertahankan efek humor yang muncul dari pelanggaran prinsip percakapan dalam teks yang bermuatan budaya merupakan tantangan besar terutama ketika berkaitan dengan bahasa daerah yang kaya dengan variasi linguistik dan kultural. Jenis humor ini bergantung pada konteks linguistik, budaya, dan situasional yang kompleks sehingga sulit untuk mereplikasi efek yang sama dalam bahasa sasaran. Penelitian ini menelaah

strategi penerjemahan humor dan kualitas terjemahan dua model bahasa kecerdasan buatan (AI) tingkat lanjut, yakni ChatGPT 4.0 dan Gemini 2.5 dalam menerjemahkan humor bermuatan budaya yang secara sengaja melanggar maksim kerja sama Grice dan prinsip kesantunan Leech. Penelitian ini berfokus pada penerjemahan dari bahasa Sunda ke bahasa Inggris dengan menggunakan 20 teks humor yang dipilih dari Cangehgar, sebuah antologi humor Sunda terkenal yang ditandai dengan pelanggaran prinsip percakapan dan kesantunan. Kerangka empat opsi penerjemahan humor dari Chiaro digunakan untuk mengidentifikasi strategi yang diterapkan, sedangkan skala kejelasan, ketepatan, dan kewajaran dari Larson digunakan untuk menilai kualitas terjemahan. Pendekatan kualitatif deskriptif digunakan dalam penelitian ini. Teks-teks humor yang dipilih diambil secara purposif berdasarkan pelanggaran yang jelas terhadap prinsip percakapan dan kesantunan. Hasil penelitian menunjukkan meskipun kedua model menggunakan strategi penerjemahan yang berbeda, efektivitas dalam menjaga maksud asli humor bervariasi. ChatGPT menunjukkan kemampuan yang lebih kuat dalam mempertahankan struktur dan esensi humor pada bagian punchline (bagian lucu tak terduga), sedangkan adaptasi Gemini cenderung mengurangi dampak komedinya. Penelitian ini memberikan kontribusi terhadap diskursus akademik yang berkembang mengenai peran AI dalam penerjemahan humor serta implikasinya yang lebih luas bagi komunikasi lintas budaya.

Introduction

The evolution of artificial intelligence (AI) and its increasing incorporation into translation tools have meaningfully advanced the capacity for rapid and relatively accurate translations across languages. With the development of neural machine translation and natural language processing (NLP) capabilities, open AI systems such as ChatGPT and Gemini are nowadays able to manage both complex syntactic structures (Mondal et al., 2023; Qing, 2022) and semantic patterns (Ahammad et al., 2024; Alawida et al., 2023). These systems have proven competent across various domains such as news translation, technical documentation, and everyday discourse. Sahari et al. (2023) highlight ChatGPT's effectiveness in generating translations that balance syntactic and semantic accuracy, while Jiao et al. (2023) acclaim its flexibility across various language pairs. Gemini uses advanced in-context learning to understand and apply language patterns from prompts, performing well with low-resource languages and creative text genres (Pichal & Hassabis, 2024).

However, the effectiveness of AI in translating humor grounded in cultural norms and pragmatic violations remains uncertain and inconsistent. Humor stands as a deeply cultural and linguistically nuanced form of human communication. Its translation across languages is among the most challenging and least predictable areas in translation studies due to its dependence on contextual, social, and linguistic factors (Alnusairat & Jaganathan, 2022), social (Kostopoulou & Misiou, 2023), and linguistic contexts (Pilyarchuk, 2023; Xia et al., 2023). Chiaro (2020) notes that humor is particularly vulnerable to distortion because it often relies on shared cultural assumptions and background knowledge that are difficult to encode algorithmically. Humor often involves subtle implicatures, idioms, and culturally specific references, elements that AI systems may process superficially rather than interpret meaningfully.

Humor frequently operates by deliberately violating conversational norms, notably Grice's cooperative principle and Leech's politeness principle. These pragmatic principles help speakers manage coherence and social harmony in conversation. Humor emerges when these maxims are flouted. Yulianti & Handayani (2022) and Zuo (2020) explore how violations of Grice's cooperative principle create comedic effects by exploiting conversational implicature. For example, a speaker may provide excessive detail (flouting quantity), make irrelevant statements (flouting relation), or use ambiguous language (flouting manner) to create humor. These strategies rely heavily on the audience's awareness of what is normally expected in conversation, and the humor, therefore, arises from the contrast between expectation

and actual utterance (Al-Sawaeer et al., 2022; Dacosta, 2021; Hmouri, 2021; Krisdwiyani & Hanidar, 2022; Yustika et al., 2022)

The politeness principle of Leech (1983) offers additional insights into how humor can subvert social norms for comedic effect. This principle includes maxims such as tact, generosity, approbation, modesty, agreement, and sympathy. Violating these norms by making absurdly polite or impolite remarks, overstating modesty, or pretending to insult can generate humor by playing with the audience's expectations of social behavior. These kinds of humor are culturally rooted, as they depend on what is considered polite, generous, or modest in a given society. This makes translation even more complex, as the humor often cannot be directly replicated. AI models need to understand not just the linguistic structure but also the cultural subtext, something that remains difficult despite advances in machine learning (Zuo, 2020).

To navigate these translation challenges, Chiaro (2020) offers a four-option model that outlines strategies, i.e., leaving the humor unchanged, replacing it with a different humorous instance, replacing it with a culturally relevant idiom, or omitting the humor altogether. Each strategy requires careful judgment about what will resonate with the target audience. Retaining the humor unchanged works best when the cultural and linguistic context is shared between source and target audiences. Replacing or adapting the humor may be more effective when cultural differences are pronounced. However, omitting humor altogether, though often a last resort, is sometimes necessary when no equivalent can be found. The AI's ability to choose and apply these strategies effectively is a central concern in evaluating its translation capabilities. Evaluation of humor translation must go beyond literal correctness to include how the translation functions within its new context. Larson (1998) proposes three key elements as the foundation for assessing translation quality, i.e., clarity, accuracy, and naturalness. Clarity involves how easily the translated humor can be understood. Accuracy concerns whether the translation faithfully conveys the original meaning and intent. Naturalness focuses on how smoothly the humor reads in the target language. These elements are important, where even a slight deviation can lead to misunderstanding or a complete loss of the humorous effect. By applying the above-mentioned criteria, this study seeks to systematically evaluate how well ChatGPT and Gemini capture and convey humor that arises from pragmatic violations to offer insights into the current state and future direction of AI-based humor translation.

Theoretical frameworks on humor translation provide insight into the complexities involved in transferring humor from one language and culture to another. Humor is both a universal human experience and a culturally specific construct. While people across the globe laugh, they often do so for different reasons. What one culture finds amusing; another may find incomprehensible or even offensive. This duality leads to a significant challenge for translators when humor involves culturally loaded symbols, idioms, or social behaviors (Chiaro, 2020; Luiz, 2020). As Luiz (2020) and Abu-Rayyash (2024) note, the translator's goal is not merely to replicate text but to recreate the humor's effect.

The classification of humor further clarifies the difficulty in translating it. Raphaelson-West (2012) outlines that humor can be divided into universal, language-specific, and culture-specific types. Universal humor relies on shared human experiences and is therefore more easily translatable. Language-specific humor depends on puns, phonological play, or syntactic peculiarities that may not be replicable in another language. Culture-specific humor, the focus of this study, draws on context-specific knowledge, values, and social behaviors that are not universally shared. Translating this type of humor requires both linguistic conversion and cultural mediation in adjusting the ways that resonate with the new audience without distorting its original meaning or function.

Despite increasing scholarly interest in AI and translation, few studies focus specifically on how AI interprets and conveys humor that flouts pragmatic maxims. Prior research has explored AI's performance in general humor translation. Li et al. (2023) and Avetisyan et al. (2023) examined AI-generated humor in multilingual contexts by highlighting general trends in translation quality but without exploring the pragmatic mechanisms behind humorous expressions. Xia et al. (2023) have addressed humor translation in animated and scripted dialogue by identifying the limitations of neural machine translation systems

in dealing with idiomatic and culturally bound jokes. Meng (2022) assessed machine translation of humorous advertisements by noting a frequent failure to maintain the persuasive and ironic tone. These studies, however, stop short of examining the intersection between humor rooted in pragmatic violations and AI translation strategies. Most focus on lexical or syntactic challenges, genre-specific humor, and general performance metrics without a targeted analysis of how AI systems manage the socio-pragmatic mechanisms underlying humor. Moreover, few studies compare the capabilities of different AI models in systematically addressing humor translation. This study aims to fill these gaps by identifying the humor translation strategies employed by ChatGPT and Gemini when translating humor that arises from pragmatic violations and evaluating the quality of these translations in terms of clarity, accuracy, and naturalness. The study specifically addresses the following research questions:

1. What humor translation strategies do ChatGPT and Gemini employ when translating Sundanese culture-specific humor that flouts conversational and politeness principles?
2. How do these AI models differ in maintaining the clarity, accuracy, and naturalness of the translated humor?

By combining theories of pragmatics and humor translation with empirical AI evaluation, this research provides a comparative framework for understanding the current capabilities and constraints of AI-based humor translation. This study contributes a novel comparative analysis that bridges theories of pragmatics and humor translation with empirical evaluation of AI performance. In addition, it assesses translation quality through the lens of clarity, accuracy, and naturalness to offer a more nuanced framework for evaluating AI's handling of humor beyond lexical equivalence. This integrated approach provides new insights into the current limitations and potential of AI-based humor translation systems in preserving the communicative intent embedded in pragmatically complex utterances.

Method

This research adopts a descriptive qualitative approach to investigate how artificial intelligence models ChatGPT 4.0 and Gemini 2.5 (accessed in June 2025) translate culturally embedded humor by focusing on violations of Grice's Cooperative Principle and Leech's Politeness Principle. The qualitative design (Creswell & Creswell, 2018) allows an in-depth exploration of translation practices without manipulating variables, focusing instead on naturally generated model outputs. The translation direction was explicitly set from Sundanese (source language) to English (target language). The study examines how these models translate humor from Cangehgar (*carita ngeunah dan segar,* meaning "delightful and refreshing humorous stories"), a collection of Sundanese humorous texts known for their strong cultural and linguistic grounding. Each text in the corpus features a three-part narrative structure, i.e., orientation, event, and twist, which serves as a scaffold for the punchline delivery.

The dataset consists of 20 humorous texts purposively selected from Cangehgar because of their clear incorporation of culture-specific humor rooted in Sundanese traditions and social values. Each text exemplifies pragmatic violations used for comedic effect: eight texts represent flouts of the Cooperative Principle (quantity, quality, relation, and manner) and twelve exemplify violations of Politeness Principles (tact, generosity, approbation, modesty, and sympathy). Prompt and generation settings were standardized to ensure comparability. Both AI models were provided with the same instruction: *"Translate the following Sundanese humorous text into English while preserving its humorous effect, tone, and cultural meaning."* Initially, translations were generated in a single attempt for each model to maintain procedural uniformity. However, to address potential output variability, a supplementary round of multiple generations (three per text) was conducted. The version with the highest internal coherence and cultural fidelity was retained for analysis, and this sampling test confirmed low variance across generations.

Both AI systems were treated as translation instruments, and their English outputs were then analyzed to determine which humor translation strategies they employed, using Chiaro's (2020) four-

option taxonomy: leaving the humor unchanged, replacing it with a different humorous instance, adapting it using an idiomatic expression, or omitting it altogether. A detailed coding manual was developed to operationalize these categories. Each rater received definition sheets and authentic examples illustrating each strategy, decision rules for ambiguous or mixed cases, such as when a text combined adaptation and omission; raters were instructed to select the dominant strategy and record justification notes. A pilot coding session using three sample texts was held to calibrate interpretations and ensure consistency across raters. To evaluate translation quality, the study employed Larson's (1998) criteria of clarity, accuracy, and naturalness as described in Table I.

Table I Three Critical Elements to Evaluate Translation

Score	Category	Description		
		Clarity	Accuracy	Naturalness
4	Excellent	Easy to understand, correct words phrase and grammar nothing ambiguous.	Accurate and clear meaning, without any omission or changes of meaning.	Make sense, read naturally (written in ordinary language, common grammar, proper idioms and words)
3	Good	Appropriate words, phrases and grammar and clear meaning.	Correct meaning, with no omission, addition or any changes of meaning.	Correct meaning, appropriate idioms and words, but there are some syntactic structure errors.
2	Fair	Complex syntax but understandable meaning, with some diction or mechanical errors.	Correct meaning, with minimum redundancy and grammatical errors.	Make sense with minimum unnatural words, grammar, phrase and idiom.
1	Bad	Stylistically awkward, structurally burdensome, and poorly structured, with diction and mechanical errors.	Semantically misleading and incomprehensible, unclear meaning, there are some grammatical errors and deviation of meaning.	Unnatural form, with awkward language, linguistically unnatural and stylistically awkward.

Source: Larson (1998)

Each of the three criteria was rated within the narrative structure (orientation, event, twist) to assess how well each model maintained the original humorous intent. Three raters participated: two lecturers specializing in translation studies (M.A. in Translation and Applied Linguistics) and one native Sundanese speaker with an M.Hum. in Linguistics. All had prior experience in humor or cultural translation research. Before the main analysis, inter-rater training sessions were conducted using five sample texts not included in the dataset. Inter-rater reliability was calculated using Cohen's kappa ($\kappa = 0.86$), indicating high agreement. Disagreements were resolved through discussion until consensus was achieved. Content validity was confirmed through expert consultation with two Sundanese cultural scholars who verified the authenticity and cultural representativeness of the selected texts. Construct validity was ensured by using the clearly defined criteria and coding manual above. The criterion was addressed by comparing ChatGPT and Gemini outputs across identical texts. External validity was supported through the potential transferability of the framework to other culturally embedded humor datasets.

Results and Discussion

It is important to note that all translation outputs were rated by three trained raters with inter-rater reliability (Cohen's $\kappa = 0.86$). The raters were trained using a detailed coding manual that included definitions, examples, and procedures for ambiguous cases in applying Chiaro's strategy taxonomy and Larson's rubric.

Translation Strategies of the Flouted Maxims of Cooperation

The 1–4 scoring anchors for clarity, accuracy, and naturalness were also explicitly defined to ensure consistent application of evaluation criteria across all datasets. Each humorous instance was first categorized according to the violated maxim based on Grice's (1975) cooperative principle (i.e., quantity, quality, relation, and manner) and Leech's (1983) politeness principle (i.e., tact, generosity, approbation, modesty, agreement, and sympathy). These categorizations guided the subsequent coding of translation strategies following Chiaro's (2020) four-option model. In ambiguous or mixed cases, raters were instructed to identify the dominant strategy and provide justification notes to ensure transparency in how each humorous instance was classified. The analysis of translation strategies reveals distinct patterns in how ChatGPT and Gemini manage each type of violation within the generic structure of humor texts, namely, orientation, event, and twist. The findings show that both models consistently employ strategies across the three structural elements of humor. The detailed comparison of these strategies is presented in Table II.

Table II Translation Strategy of the Flouted Maxim of Cooperation

Flouted Maxim	Data	Generic Structure					
		Orientation		Event		Twist	
		ChatGPT	Gemini	ChatGPT	Gemini	ChatGPT	Gemini
Quantity	Humor 1	St.1	St.1	St.1	St.2	St.1	St.2
	Humor 2	St.1	St.1	St.1	St.2	St.1	St.2
Quality	Humor 3	St.1	St.1	St.1	St.2	St.1	St.2
	Humor 4	St.1	St.2	St.1	St.2	St.1	St.2
Manner	Humor 5	St.1	St.1	St.1	St.2	St.1	St.2
	Humor 6	St.1	St.2	St.1	St.2	St.1	St.2
Relation	Humor 7	St.1	St.1	St.1	St.2	St.1	St.2
	Humor 8	St.1	St.1	St.1	St.2	St.1	St.2

Note:
St1=Leaving the humor unchanged, St2=Replacing the source humor with a different instance in the TL, St3=Replacing the source humor with an idiomatic expression in the TL, St4=Ignoring the humor altogether

Table II presents the translation strategies applied to instances of humor that flout Grice's maxims of cooperation by focusing on how these strategies are distributed across different generic structures: orientation, event, and twist stage. It compares the approaches used by ChatGPT and Gemini in handling humor related to the maxims of quantity, quality, manner, and relation. Each strategy (St) is labelled as St1 (leaving the humor unchanged), St2 (replacing the humor with a different instance in the target language), St3 (replacing the humor with an idiomatic expression), and St4 (ignoring the humor altogether).

In the orientation and event stages, both ChatGPT and Gemini rely on St1, maintaining the humor as it appears in the source language. This suggests a strong preference for preserving the original humor's structure and content in the parts of the generic structure. The consistent use of St1 in these stages indicates that both tools prioritize fidelity to the source humor in setting the context and presenting the core action.

However, differences emerge in the twist, where the humor's punchline or unexpected element is delivered. While ChatGPT primarily uses St1, Gemini demonstrates greater flexibility by occasionally employing St2. This adaptability suggests that Gemini prioritizes cultural or contextual relevance over direct translation when managing the humor's most critical element. Interestingly, St3 and St4 are not used in any instance. It indicates that both tools aim to preserve humor in some form rather than omitting or replacing the source humor with an idiomatic expression entirely. This implies a shared commitment to retaining the comedic element, even when different strategies are employed. While both tools maintain

a similar approach in most cases, Gemini's flexibility in the Twist stage highlights its ability to adapt humor for cultural or contextual resonance. This feature contrasts with ChatGPT's tendency to preserve the original humor's structure across all stages (see Excerpt 1).

Excerpt 1

Humor 3	Structure	Source Language	ChatGPT	Gemini
Flouting maxim of Quality	Orientation	Guru: Udin, bahasa Inggrisna kekeset naon, Din?	Teacher: Udin, what's the English word for "kekeset" (door mat)?	Teacher: Udin, what is the English word for "doormat"?
	Event	Udin: Welcome, bu! Guru: Welcome? Apal ti saha eta welcome artina kekeset Udin? Udin: Apan dina kekesetna ge sok ditulisan bu 'welcome' kitu meni jelas badag, Bu! Guru: Jadi ceuk silaing mah pom bensin ge bahasa Inggrisna 'No Smoking' nya? Udin : Muhun bu.	Udin: "Welcome," Ma'am! Teacher: Welcome? Who told you that "welcome" means "kekeset," Udin? Udin: Well, it's always written "welcome" on kekeset, in big, bold letters, Ma'am! Teacher: So, does that mean you think the English for "gas station" is "No Smoking"? Udin: Yes, Ma'am.	Udin: Welcome, Ma'am! Teacher: Welcome? Who told you that "welcome" means doormat, Udin? Udin: Well, it's always written "welcome" on doormats, it's so big and clear, Ma'am! Teacher: So, according to you, the English for "gas station" is "No Smoking", right? Udin: Yes, Ma'am.
	Twist	Guru : Kahareup maneh Udin!	Teacher: Go to the front, Udin!	Teacher: Oh, Udin, Udin!

Excerpt 1 reveals how ChatGPT and Gemini exhibit distinct translation strategies when handling humor. In this humorous exchange, the teacher's and Udin's dialogue shows Udin's literal interpretation of English words or flouting the maxim of quality by implying meanings that are not accurate. This humorous misinterpretation is carried by Udin's insistence that "*welcome*" means "*kekeset*" as well as that '*no smoking'* means gas station (culturally the sign *'no smoking'* is commonly found in gas station areas and *'welcome'* is written on the doormat). ChatGPT relies on St1 during the orientation and event by showing a shared commitment to maintaining the context and setup of the joke. It translates the teacher's question about "*kekeset*" and Udin's humorous misunderstanding *"Welcome,"* faithfully. This approach ensures that the core elements of the joke are intact by effectively setting up the punchline while Gemini translates *"kekeset"* as a doormat.

The key difference between the two tools emerges in the twist where the punchline is delivered. ChatGPT continues to rely on St1, which directly translates the punchline *"Go to the front, Udin*!" to maintain fidelity to the source. This approach preserves the original humor as the teacher provides pre-punishment instruction to go to the front of the class. It does not adapt to the cultural or linguistic context of the target audience. Gemini, on the other hand, takes a more flexible approach with St2. Instead of a literal translation, it modifies the punchline to *"Oh, Udin, Udin!"* to emphasize the teacher's frustration. While this adaptation attempts to enhance the emotional tone, it inadvertently makes the humor feel less natural and diminishes its comedic impact as the original setup and punchline connection are weakened.

Translation Strategies of the Flouted Maxims of the Politeness Principle

Translating humor that flouts the politeness principle presents unique challenges, as it requires balancing fidelity to the source text with cultural and linguistic adaptation for the target audience. Table II below illustrates the strategies employed by ChatGPT and Gemini when translating humor that violates maxims of tact, generosity, approbation, and modesty. These strategies are analyzed across three stages based on the generic structure to evaluate how each tool handles humor in different contexts while preserving its intended effect.

Table III Translation Strategy of the Flouted Maxim of Politeness Principle

Flouted Maxim	Data	Generic Structure					
		Orientation		Event		Twist	
		ChatGPT	Gemini	ChatGPT	Gemini	ChatGPT	Gemini
Tact	Humor 9	St.1	St.1	St.1	St.1	St.1	St.2
	Humor 10	St.1	St.1	St.1	St.1	St.1	St.2
Generosity	Humor 11	St.1	St.1	St.1	St.1	St.1	St.2
	Humor 12	St.1	St.1	St.1	St.1	St.1	St.2
Approbation	Humor 13	St.1	St.1	St.1	St.1	St.1	St.2
	Humor 14	St.1	St.1	St.1	St.1	St.1	St.2
Modesty	Humor 15	St.1	St.1	St.1	St.1	St.1	St.2
	Humor 16	St.1	St.1	St.1	St.1	St.1	St.2
Agreement	Humor 17	St.1	St.2	St.1	St.1	St.1	St.2
	Humor 18	St.1	St.1	St.1	St.1	St.1	St.2
Sympathy	Humor 19	St.1	St.1	St.1	St.1	St.1	St.1
	Humor 20	St.1	St.1	St.1	St.1	St.1	St.1

Note:
St=Strategy, St1=Leaving the humor unchanged, St2=Replacing the source humor with a different instance in the TL, St3=Replacing the source humor with an idiomatic expression in the TL, St4=Ignoring the humor altogether

Table III highlights the translation strategies employed by ChatGPT and Gemini in handling humor across the orientation**,** event**,** and twist. In the orientation and event, ChatGPT and Gemini consistently apply St1 to preserve the original humor without modification. This uniformity indicates that both tools prioritize fidelity to the source text when introducing and developing the joke's context. By maintaining the original structure and humor, both ensure that the setup and progression of the joke remain intact and comprehensible to the target audience. This shared strategy across all types of maxims reflects a commitment to preserving the humor's essence that sets the stage for an effective delivery of the punchline.

The key distinction emerges in the twist. ChatGPT maintains its reliance on St1 by directly translating the punchline without any cultural or contextual adaptation. This guarantees that the structure of the joke stays faithful to its original source (refer to excerpt 2). In contrast, Gemini often shifts to St2 during the Twist when adapting the punchline to fit cultural nuances. However, the punchline effect becomes less natural. Gemini also employs St1 for the maxim of sympathy. Gemini's consistent use of St1 in the maxim of sympathy is attributed to its translation style, which emphasizes the use of polite and refined language. This characteristic aligns well with the maxim of sympathy, as the humor often relies on maintaining an empathetic and considerate tone.

Excerpt 2

Humor 13	Structure	Source Language	ChatGPT	Gemini
Flouting Maxim of approbation	Orientation	A: Sato naon anu matak ngabingungkeun?	A: What animal is the most confusing?	A: What animal is always confused?
	Event	B: Teuing ah teu apal ateuh A: Nya monyet atuh! B: Naha monyet?	B: I don't know, no idea. A: A monkey! B: Why a monkey?	B: I don't know. A: A monkey, of course! B: Why a monkey?
	Twist	A: Tuh monyet wae bingung!	A: Look, even the monkey looks confused!	A: Because even monkeys get confused!

The humor in Excerpt 2 is categorized as flouting the maxim of approbation, as it subtly undermines interlocutor B through a humorous comparison. The maxim that encourages avoiding criticism and promoting praise is flouted when interlocutor A jokingly implies that B's confusion implicitly makes him

the monkey in question. The punchline, *"Look, even the monkey looks confused!"* creates humor through incongruity, as it refers to the monkey but implicitly ridicules B's state of mind. In translating the humor, both ChatGPT and Gemini preserve the humor's structure in the orientation and event by employing St1. The setup question, *"What animal is the most confusing?"* and the subsequent dialogue between the speakers are translated directly by both tools. This approach ensures that the logic and progression of the joke, which builds on the absurdity of calling a monkey *"confused,"* are retained in the target language. By maintaining fidelity to the original text in these stages, both tools effectively preserve the setup and context necessary for the punchline to work.

However, in the Twist, ChatGPT performs better than Gemini despite both employing different strategies. ChatGPT remains consistent with St1 by directly translating the punchline as *"Look, even the monkey looks confused!"* which preserves the humor's original intent, where the incongruity of interlocutor B being labeled as "*confused*" is key to the punchline. In contrast, while Gemini adopts St2 to adapt the humor as *"Because even monkeys get confused!",* it loses the original punchline's essence.

Translation Quality

Translation quality was evaluated using Larson's (1998) scales of clarity, accuracy, and naturalness as described in table I. These anchors, along with those for clarity and accuracy, were provided in the rater manual and demonstrated during training sessions. Regarding how effectively ChatGPT and Gemini manage the complexities of humor translation Table IV displays a detailed comparison of the two AI models that highlights their respective strengths and challenges in preserving the humor throughout different structures of the humorous texts.

Table IV Translation Quality of the Flouted Maxim of Cooperation

Flouted Maxim	Data	Generic Structure																	
		Orientation						Event						Twist					
		ChatGPT			Gemini			ChatGPT			Gemini			ChatGPT			Gemini		
		C	A	N	C	A	N	C	A	N	C	A	N	C	A	N	C	A	N
Quantity	Humor 1	4	4	4	4	3	3	4	4	3	3	3	3	4	4	4	3	3	3
	Humor 2	4	4	4	4	4	4	4	4	4	4	3	3	4	4	3	4	3	3
Quality	Humor 3	4	4	4	4	3	3	4	4	4	3	3	3	4	4	4	1	1	1
	Humor 4	4	4	4	4	4	3	4	4	4	3	3	2	4	4	4	4	3	3
Manner	Humor 5	4	4	4	4	4	4	4	4	4	1	1	1	4	4	4	4	4	4
	Humor 6	4	4	4	4	4	4	4	4	4	2	2	2	4	4	4	3	2	2
Relation	Humor 7	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
	Humor 8	4	4	4	4	3	3	4	4	4	3	3	3	4	4	4	1	1	1
Average per-generic structure		4.0			3.7			4.0			2.8			4.0			2.7		

Note:
C=Clarity, A=Acuracy, N=Naturalness; 4=Excellent, 3=Good, 2=Fair, 1=Bad

Table IV shows the translation quality of the flouted maxim of cooperation across the generic structures for both ChatGPT and Gemini based on the critical elements: Accuracy (A)**,** Clarity (C)**,** and Naturalness (N)**.** Each element is rated on a scale of 1 to 4, where 4 represents "excellent," 3 represents "good," 2 represents "fair," and 1 represents "bad." The findings highlight differences in how effectively each tool manages humor translation across various stages. In the orientation and event, both ChatGPT and Gemini perform well, scoring mostly 4s and 3s across accuracy, clarity, and naturalness. ChatGPT achieves a slightly higher average in these stages due to its consistency in preserving meaning and maintaining grammatical accuracy. Gemini, while still scoring well, occasionally dips in naturalness

during the event due to slight adjustments or rephrasing that may not align as smoothly with the original tone or flow of the humor. Both tools demonstrate strength in maintaining the setup and context of the jokes, ensuring that the translations are comprehensible and faithful to the source text.

The twist reveals significant differences in performance between ChatGPT and Gemini. ChatGPT maintains consistent scores, with strong accuracy and clarity. However, Gemini scores lower, particularly in accuracy and naturalness, due to its attempts to adapt the humor using St2. While these adaptations aim for cultural tone, Gemini sometimes fails to capture the intended meaning or structure of the punchline, which leads to a loss of humor or coherence. As a result, Gemini's average scores drop noticeably in the twist, which reflects its struggle to effectively balance fidelity to the source text with cultural adaptation.

Excerpt 3

Humor 5	Structure	Source Language	ChatGPT	Gemini
Flouting maxim of Manner	Orientation	Jack: Daniel! Daniel: Naon Jack?	Jack: Daniel! Daniel: Yes, Jack?	Jack: Daniel! Daniel: What, Jack?
	Event	Jack: Ceunah maneh kungsi nyaho jin? Daniel: Ari bungkul namah acan. Kungsi soteh nenjo eta weh pakeananna. Jack: Wah sia! Kumaha rupana? Daniel: Ah biasa weh, aya nu hideung, aya nu coklat, tapi lolobana mah nya nu warna biru jin teh! Jack : Dimana ningali nu kitu?	Jack: Did you say you've ever seen a genie? Daniel: No, but I have seen their clothes. Jack: Really? What do they look like? Daniel: Oh, you know, they come in black, brown, but mostly blue! Jack: Where did you see that?	Jack: I heard you know what "jin" is? Daniel: Well, you know those pants, right? I've seen those clothes. Jack: Wow, really? What do they look like? Daniel: Oh, they're normal, some are black, some are brown, but most of them are blue, you know, the "jin" ones. Jack: Where did you see those?
	Twist	Daniel : Di Cihampelas	Daniel: In Cihampelas.	Daniel: In Cihampelas.

Excerpt 3 provides further evidence that ChatGPT outperforms Gemini in translating humor when dealing with the flouting maxim of manner, which relies on indirect communication and wordplay. In the orientation and event, both successfully capture the setup of the joke with Jack asking Daniel if he knows about a "*jin*" (genie) and Daniel responding by referencing clothing rather than the mythical being. Both models convey this dialogue accurately by maintaining the natural flow and tone of the source text. However, in the event, slight differences emerge. ChatGPT's translation, *"Did you say you've ever seen a genie?"* stays closer to the intended humor by immediately setting up the contrast between a mystical genie and everyday clothing. Meanwhile, Gemini's approach, *"I heard you know what 'jin' is,"* slightly changes the setup.

The disparity becomes more obvious where the humor relies on a pun involving the word "*jin*," which in the source language sounds similar to the name of a type of pants (jeans). ChatGPT captures this wordplay effectively by translating Daniel's punchline as a casual remark about seeing "*blue*" clothes in a specific location. In contrast, Gemini's translation, "*Well, you know those pants, right*? I have seen those clothes," tries to explain the joke by explicitly referencing jeans. This excessive clarification lessens the impact of the humor by reducing the subtle wordplay and the audience's ability to make their own connections. As a result, Gemini's scores drop in naturalness and accuracy, as the translation loses the playful ambiguity and indirectness that make the joke effective.

Table V Translation Quality of the Flouted Maxim of Politeness

Flouted Maxim	Data	Generic Structure																	
		Orientation						Event						Twist					
		ChatGPT			Gemini			ChatGPT			Gemini			ChatGPT			Gemini		
		C	A	N	C	A	N	C	A	N	C	A	N	C	A	N	C	A	N
Tact	Humor 9	4	4	4	4	4	4	4	4	4	2	2	1	4	4	4	1	1	1
	Humor 10	4	4	4	4	4	4	4	4	4	2	2	1	4	4	4	2	2	2
Generosity	Humor 11	4	4	4	4	4	4	4	4	4	3	3	3	4	4	4	1	1	1
	Humor 12	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	2	2	2

Approbation	Humor 13	4	4	4	3	3	3	4	4	4	3	3	3	4	4	4	2	2	2
	Humor 14	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	1	1	1
Modesty	Humor 15	4	4	4	4	4	4	4	4	4	3	3	3	4	4	4	4	4	4
	Humor 16	4	4	4	4	3	3	4	4	4	3	3	3	4	4	4	4	3	3
Agreement	Humor 17	4	4	4	1	1	1	4	4	4	4	4	4	4	4	4	3	3	3
	Humor 18	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	3	3	3
Sympathy	Humor 19	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
	Humor 20	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Average per-generic structure		**4.0**			**3.6**			**4.0**			**3.2**			**4.0**			**2.5**		

Note:
C=Clarity, A=Acuracy, N=Naturalness; 4=Excellent, 3=Good, 2=Fair, 1=Bad

Table V shows a comparative analysis of ChatGPT and Gemini's performance in translating text that intentionally flouts the politeness maxim. In terms of clarity, both models performed well, with ChatGPT achieving an average score of 4.0 and Gemini slightly lower at 3.6. This suggests that both models produced understandable translations, though Gemini may have exhibited occasional ambiguity or awkward phrasing. For accuracy, both models scored similarly, with ChatGPT at 4.0 and Gemini at 3.6. This indicates that both models were generally accurate in conveying the intended meaning. However, Gemini might have occasionally deviated from the original meaning to a minor extent. In terms of naturalness, ChatGPT significantly outperformed Gemini with scores of 4.0 and 2.5, respectively.

Excerpt 4

Humor 9	Structure	Source Language	ChatGPT	Gemini
Flouting Maxim of Tact (Bijaksana)	Orientation	Ujang: Rek kamana atuh mang ti tadi huleng-huleng wae?	Ujang: Where are you planning to go, Uncle? You've been lost in thought for a while.	Ujang: Where are you going, Uncle? You've been standing there lost in thought.
	Event	Emang : Puguh rek ka rumah sakit ieu teh ngan jalana poho deui. Ujang: Bingung-bingung teuing atuh mang. Cicing geura emang teh di tengah jalan, engke oge nepi ka rumah sakit geura. Emang: Naon bisa kitu jang?	Uncle: I'm planning to go to the hospital, but I forgot the way. Ujang: Why are you so confused, Uncle? Just stand still in the middle of the road, and you'll get to the hospital eventually. Uncle: How's that possible, Ujang?	Uncle: I'm going to the hospital, but I forgot the way. Ujang: You're so confused, Uncle. Just stand still, you're in the middle of the road. You'll reach the hospital eventually. Uncle: how could you do that?
	Twist	Ujang : Apan engke emang katabrak tuluy dianterkeun engke ka rumah sakit	Ujang: Well, if you get hit by a car, they'll take you straight to the hospital!	Ujang: Maybe you'll get hit by a car and then they'll take you to the hospital.

The comparison between ChatGPT and Gemini in translating humor, as illustrated in excerpt 4, reveals notable differences in their ability to manage the nuanced elements of jokes in the twist where the punchline is delivered. Both models perform well in the orientation and event, indicating that they can effectively set up the joke. For instance, both translations manage to convey the confusion of the character Ujang over the uncle's apparent aimlessness. However, despite their strong performance in these initial stages, the differences are in how each tool manages the event. ChatGPT maintains a direct and faithful translation style, while Gemini attempts to adjust the phrasing for better cultural resonance. While these changes can be seen as an effort to make the humor more relatable, it occasionally disrupts the natural flow, slightly affecting the humor's tone. This adjustment can result in minor discrepancies in naturalness scores, as Gemini's alterations may introduce phrasing that feels less fluid or slightly out of place in the context of the joke.

The most significant disparity between the two models emerges during the twist. ChatGPT excels by preserving the original humor's structure and intent. It translates Ujang's sarcastic remark about getting hit by a car to reach the hospital in a way that maintains the dark, absurd humor of the original text. The straightforward and unembellished translation approach results in high scores for accuracy and

naturalness, as it effectively conveys the unexpected and ironic twist that makes the joke funny. Gemini's approach to the punchline shows a decline in performance in accuracy and naturalness. By slightly altering the phrasing to "*Maybe you'll get hit by a car, and then they'll take you to the hospital,*" which softens the sarcasm and shifts the tone from a biting remark to a more neutral suggestion. This adaptation to enhance cultural resonance actually dilutes the humor's impact and makes the joke less effective.

The findings emphasize the complexities of translating humor embedded in culturally specific contexts by highlighting the nuanced interplay between the cooperative principle and the politeness principle. These frameworks offer theoretical insights into how humor emerges through the intentional flouting of conversational and politeness maxims (Dacosta, 2021). While humor relies heavily on shared cultural knowledge and expectations, ChatGPT and Gemini encounter significant challenges in preserving the humor's original intent across linguistic and cultural boundaries. It is illustrated that while both models utilize strategies to maintain the humor's core elements, their differing approaches reveal strengths and weaknesses in managing the intricacies of humor translation (Jiao et al., 2023).

The findings suggest that ChatGPT demonstrates greater consistency in preserving the humor's structure and punchlines in the twist where the humor's impact is most critical. Its adherence to direct translation strategies often ensures fidelity to the original text. However, this approach sometimes sacrifices the cultural adaptability needed to resound with the target audience. In contrast, Gemini exhibits flexibility by adapting the humor for cultural context during the punchline. However, this adaptability occasionally weakens the humor's essence, which leads to reduced naturalness and comedic impact. These distinctions emphasize the trade-off between fidelity and cultural relevance in AI-driven humor translation (Anjum & Lieberum, 2023; Rane, 2024).

Another key insight is the effectiveness of translation strategies outlined by Chiaro's framework. Both AI models employ strategies that preserve the original humor or adapt it minimally. However, the absence of strategies like idiomatic replacements (St3) or ignoring the humor altogether (St4) reflects an inherent limitation in the models' ability to creatively reinterpret humor. This constraint highlights the need for integrating more advanced contextual and cultural sensitivity algorithms to enhance AI translation capabilities for humor deeply rooted in idiomatic and cultural nuances (Calvo-Ferrer, 2023; Cennamo & de Faria Pires, 2022).

The findings also shed light on the evaluation metrics of clarity, accuracy, and naturalness as critical benchmarks for assessing humor translation quality. While ChatGPT consistently achieves higher scores across these metrics in clarity and accuracy, Gemini often falls short in naturalness during the twist. This divergence reveals the importance of balancing linguistic accuracy with cultural adaptability to create translations that are both faithful to the source material and relatable to the target audience (Cao et al., 2023). The findings suggest a hybrid approach where AI precision is complemented by human creativity to enhance the effectiveness of humor translation (Čičak & Karlić, 2023; Dore, 2020).

The importance of cultural and linguistic expertise in humor translation lies in the ability to navigate the intricate tones, societal norms, and shared references that form the foundation of humor (Kirov & Malamin, 2022). While AI models like ChatGPT and Gemini have established remarkable capabilities in processing and translating texts, their performance in humor translation reveals that computational tools cannot fully capture the cultural subtleties and contextual richness that underpin humor (Heydon & Kianbakht, 2020; Kirov & Malamin, 2022). The challenges of translating culture-specific humor, such as wordplay, idiomatic expressions, and cultural references, require linguistic accuracy and an understanding of the shared norms, values, and experiences of the target audience.

Conclusion

Grounded in Grice's cooperative principle and Leech's politeness principle, this study examined how ChatGPT 4.0 and Gemini 2.5 translate 20 Sundanese humorous texts that intentionally flout conversational and politeness maxims. Within this corpus, outputs from ChatGPT more often preserved

the narrative structure and the punchline function, whereas Gemini's renderings tended to adapt or dilute the intended comedic effect. These patterns highlight how the interplay between linguistic fidelity and cultural adaptation shapes AI-mediated humor translation. However, these findings should be interpreted cautiously, given the small dataset, single-generation design, and other methodological constraints. Despite these limitations, the results emphasize the importance of understanding cultural nuance, pragmatic context, and humor-specific mechanisms in translation processes. AI models like ChatGPT and Gemini show potential for supporting cross-cultural humor translation, yet their performance still depends on human interpretive insight and cultural awareness.

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