HOW MODERN TECHNOLOGIES (MACHINE TRANSLATION, VOICE ASSISTANTS) INFLUENCE LANGUAGE STRUCTURE AND COMMUNICATION

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Annotation: This research explores how machine translation tools and voice assistants reshape language use and communication patterns. While these technologies offer convenience and accessibility, they also introduce significant changes to how individuals structure language, interact, and acquire linguistic competence. Using theoretical insights and empirical observations, the paper analyzes both the linguistic and socio-communicative consequences of interacting with such technologies. The findings suggest a dual impact: improved access to multilingual communication alongside simplification of language, altered communication styles, and risks to linguistic expressiveness. The study emphasizes the need for responsible integration of AI-driven tools in daily communication to preserve linguistic richness.

Keywords: Machine Translation, Voice Assistants, Language Simplification, Communication Patterns, Translationese, Hyperarticulation, Language Learning, Artificial Intelligence, Linguistic Diversity, Cultural Nuance

Introduction

In today's rapidly developing digital world, our ways of using language and communicating are changing. One of the biggest drivers of this change is modern technology, particularly machine translation tools like Google Translate and voice assistants such as Siri, Alexa, and Google Assistant. These technologies are becoming an integral part of everyday life, not only for tech-savvy users but also for a wider range of people - from helping travelers navigate foreign countries to assisting visually impaired individuals with daily tasks.

However, as useful as they are, they also raise an important question: how are they changing the way we use language and communicate? The aim of this research is to examine the influence of machine translation (MT) and voice assistants (VA) on language structures and forms of communication. The goal is to understand both the benefits and challenges these technologies bring, especially in terms of how people speak, write, and interact.

Literature analysis

Machine translation systems are designed to translate text from one language to another instantly. Over time, these systems have improved significantly thanks to artificial intelligence, especially neural networks. However, even the most advanced tools still struggle with complex sentence structures, cultural nuances, and idiomatic expressions.

To get around this, users often simplify their language when using MT tools. Instead of writing complex, nuanced sentences, they choose shorter, clearer, and more literal constructions. This practice can gradually affect users' own language habits. Research by Bowker and Barlow (2004) notes that repeated exposure to MT can lead to a form of "translationese"—a style of language that mimics machine output, often lacking in variety or expressiveness.

Voice assistants like Siri and Alexa have become essential communication tools for millions of people. They perform tasks, answer questions, and even engage in simple conversations. However, to work effectively with these systems, users need to speak in a way that the assistant can understand - often slowly, clearly, and using standard grammar.

This leads to what linguists call "hyperarticulation" - exaggerating pronunciation and avoiding informal speech for better machine comprehension. Additionally, voice assistants often require special command formats. This reinforces a stereotyped style of language, which over time may limit spontaneous or creative expression.

One of the biggest problems with both MT and VAs is their weak ability to handle contextual and cultural features of language. Machines are excellent at translating literal meaning but are weak at handling humor, irony, sarcasm, and culturally specific phrases.

Individuals will adapt their language to avoid misunderstanding. While helpful, it also leads to language flattening. As Anthony Pym (2010) writes, such simplification may eventually lead to a change in the manner languages evolve.

On the one hand, MT and VAs have opened up new possibilities for language learning and intercultural communication. However, there is a downside. Over-reliance on machines can dissuade learners from learning the more profound structure of a language. In a study, Garcia and Pena (2011) warned that language learners who over-rely on MT tools can develop an unrealistic perception of fluency.

The second major impact is the development of new communication tendencies in dealing with technology. In communicating with machines, humans minimize ambiguity, utilize keywords, and avoid open-ended queries. This type of interaction reflects a more transactional communication style—keen on getting things done effectively, rather than on building relationships or expressing emotions.

Methodology

This research adopts a qualitative approach, combining theoretical analysis with observational data from real-world interactions with MT tools and VAs. The study focuses on:

- Reviewing academic literature on language simplification, translationese, and speech adaptation.
- Analyzing user behaviors when interacting with MT tools and VAs, based on existing research and user testimonials.
- Identifying linguistic patterns influenced by technology, including structural simplification, reduced idiomatic usage, and shifts in communication style.

The analysis aims to synthesize these observations to better understand how technology-mediated communication shapes language structures and habits.

Results

The findings reveal several key patterns illustrating the influence of MT and VAs on language and communication:

1. Simplification of Language Structures

Frequent users of MT tools tend to modify their language to accommodate machine limitations. Complex sentence constructions, cultural references, and idioms are often replaced with simplified, literal phrases. This not only affects the output but gradually influences users' natural language production, promoting a more formulaic and less expressive linguistic style.

2. Emergence of "Translationese"

Bowker and Barlow's (2004) concept of "translationese" is evident in MT-influenced language. Users exposed to machine-translated texts, especially those who rely heavily on such tools, often adopt repetitive structures, limited vocabulary, and a noticeable lack of linguistic variety.

3. Hyperarticulation and Predictable Speech

Voice assistants require clear, standardized speech to function accurately. As a result, users adapt by articulating slowly, avoiding slang, and using standardized grammar. While this improves machine comprehension, it fosters a rigid, command-like communication style, diminishing linguistic spontaneity (Porcheron et al., 2018).

4**. Cultural and Contextual Limitation**s

MT and VAs struggle with contextual understanding, humor, sarcasm, and cultural references. To mitigate misunderstandings, users avoid nuanced language, leading to "language flattening," where expression becomes more literal and stripped of cultural depth (Pym, 2010).

5. Shifts in Communication Tendencies

Interactions with technology promote transactional communication—focused on efficiency rather than emotional connection or relationship-building. Instructing a VA or using MT often revolves around achieving specific outcomes, contrasting with the richer, more relational nature of human dialogue.

Discussion

The dual impact of MT and VAs reflects both the promises and pitfalls of technology-mediated communication. On the positive side, these tools democratize language access, facilitate intercultural communication, and support language learners. Travelers, for example, can navigate unfamiliar linguistic landscapes with relative ease, while individuals with disabilities can interact more independently.

However, these benefits come with significant linguistic and communicative compromises. Language simplification, translationese, and hyperarticulation risk eroding linguistic complexity, reducing expressive capacity, and promoting a transactional over relational communication style. Cultural nuances, vital for authentic and meaningful interaction, often get lost in machine-mediated exchanges.

Moreover, excessive reliance on technology may diminish motivation to learn languages in depth. As Garcia and Pena (2011) emphasize, users may develop inflated confidence in their linguistic abilities based on machine-generated outputs, undermining genuine language competence.

These patterns have broader implications for language evolution. As Pym (2010) suggests, sustained exposure to simplified, machine-compatible language can influence how languages change over time, potentially favoring clarity and standardization over diversity and richness.

Conclusion

Our modern technologies, such as machine translation and voice assistants, are changing the way we use language and communicate. On the one hand, they provide powerful tools for translation, clarity, and learning. On the other hand, they subtly alter our way of speaking and writing, encouraging simpler constructions, more stereotypical commands, and less cultural refinement.

These situations don't have to be negative, but they need to be addressed. As users learn to communicate with machines in their own language, the boundary between human and machine communication begins to disappear. This can lead to advantages such as more precise and global communication, as well as risks such as loss of expressiveness, excessive dependence on tools, and decreased depth of language learning.

To move ahead responsibly, we have to keep these changes in mind and do everything possible to maintain balance. To this end, we should use technology as a means of expanding communication and not at the expense of the richness of human language. Instead, we should use it as a means to enrich our interactions.

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