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PEACE IN THE ERA OF GENAI: CONSIDERATIONS FOR A NEW PARADIGM

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Despite the universal aspiration for peace, conflict continues, driven by a complex mix of sociopolitical, geopolitical, economic, and cultural factors. In politics, peace is not simply the absence of conflict but the outcome of coordinated and dynamic actions by the global community involving negotiation and compromise. It is an ongoing pursuit that requires proactive strategies such as peacebuilding, peacemaking, and peacekeeping.

American political scientist Parag Khanna accurately stated in his book *Connectography* that "flow and friction are the yin and yang of the world." This reflects the natural duality of global interactions: flow represents cooperation and integration, while friction signifies conflict and challenges. This duality is evident in global politics and is often mirrored in cultural narratives, especially in films and media that tend to emphasize conflict over peace.

The success of war-themed movies is driven more by anthropological factors than by creative ones. Fear, which is closely linked to humanity's survival instincts, acts as a key mechanism for self-preservation[1]. The uniquely human ability to simulate and envision the future is a complex yet critical survival strategy that allows us to foresee and mentally prepare for non-existent dangers. This emphasis on conflict, rooted in evolutionary instincts, explains the human imagination's inclination towards war. The Cold War era, marked by prolonged tension and the fear of nuclear conflict, exemplifies how fear, even without direct confrontation, can dominate global discourse and influence international relations.

Just as the perceived threat during the Cold War did not materialize into a nuclear war or World War Three, those who believed that economic interdependence among European and international powers would prevent World War One were mistaken. Peace and war are inherently uncertain. As we enter an era increasingly defined by artificial intelligence (AI), it is crucial to understand its impact on global peace. With its rapid advancements and growing influence, AI has the potential to both support and undermine peace efforts.

At the time of writing this paper, two major wars are threatening global peace - the **Ukraine-Russia** War and the **Israel-Hamas** War. The **Ukraine-Russia** conflict began as bilateral tension in February 2014 and escalated into war in February 2022. The **Israel-Hamas** War involves a conflict between a state and a terrorist organization, which is also the democratically elected government in Palestinian territory. Both wars are the results of long-term conflict-building processes and pose significant risks of regional instability, contributing to a new Cold War-like environment.

Conflict is a complex phenomenon with various causes, including economic disparities, political tensions, resource competition, and social inequalities. These factors often interact in intricate ways, intensifying existing tensions and sometimes leading to violence. To achieve

[1] Mobbs, D., Hagan, C. C., Dalgleish, T., Silston, B., & Prévost, C. (2015). The ecology of human fear: Survival optimization and the nervous system. Frontiers in Neuroscience, 9, 55. https://doi.org/10.3389/fnins.2015.00055

sustainable peace, it is crucial to address these root causes, and AI can be instrumental in identifying and tackling these underlying issues.

The portrayal of conflict in the media significantly impacts public understanding of peace efforts. Media coverage often emphasizes dramatic moments and setbacks in peace negotiations or humanitarian interventions, rather than highlighting incremental progress and the complexities involved. This selective focus can shape public support for peace initiatives and affect the overall success of peacebuilding efforts.

A fundamental contradiction exists between human fascination with war and global advocacy for peace. While humans have demonstrated exceptional conflict resolution abilities despite their cognitive and organizational limitations, these abilities are heavily influenced by complex social systems where culture and language play critical roles. Empathy and intuition, unique to humans, are powerful skills. However, advancements in artificial intelligence offer new potential for AI to become a significant peace actor. NGOs, mediators, government agencies, and diplomats often lack the tools and resources to precisely define the scope of their missions, leading to reliance on guesswork. Critical knowledge can be unconscious, inaccessible, or difficult to standardize, complicating peacebuilding efforts[2].

Recent technological advancements, including Generative Artificial Intelligence (GenAI) and Large Language Models (LLMs), can create new content—text, images, audio, and video—using deep learning neural networks. It creates this content in response to either basic, sophisticated, direct textual instructions or arbitrary digital commands. This technology can replicate reality closely enough to pose new security threats, such as distorting perceptions, undermining trust, spreading misinformation, and promoting propaganda, thereby amplifying threats to democracy. In military contexts, AI's use in autonomous weapons and surveillance can heighten risks of accidental escalation and create disparities in capabilities among nations. AI-generated disinformation could exacerbate conflicts, as seen in the Ukraine-Russia and Israel-Hamas wars, underscoring the need for effective countermeasures and vigilance.

Conversely, GenAI holds great promise for advancing peacebuilding. It can process large volumes of data, model complex scenarios, act as an intelligent agent with multilingual capabilities, flag threats, and map relationships. For example, AI-powered tools can analyze social media data to assess public sentiment and identify emerging conflicts, patterns, and trends that signal potential tensions or unrest. Such insights can inform diplomatic interventions and preventive measures. GenAI can also support peace mediators by reviewing documents for inaccuracies, identifying gaps or biases, predicting potential flashpoints, and guiding conflict resolution strategies.

[2] Olsher, D. J. (2015). New artificial intelligence tools for deep conflict resolution and humanitarian response. In Humanitarian Technology: Science, Systems and Global Impact 2015 (HumTech2015). Procedia Engineering, 107, 282–292. https://doi.org/10.1016/j.proeng.2015.06.083

GenAI is a double-edged sword, accessible to the public through various AI companies competing in the AI race. Users with computers or smartphones can access tools like **Google Translate**, **Bing**, **Microsoft Translator**, **DeepL**, **Reverso**, **Systran Translate**, and **Amazon Translate**. Also available are several computer-aided translation (CAT) tools such as **Memoq**, **Trados**, **Smartcat**, **Lokalise**, **Smartling**, **Crowdin**, **TextUnited**, and **Memsource**. More recently, artificial intelligence has been applied in the development of applications such as **ChatGPT**, **ChatSonic**, **GPT-3 Playground**, **Chat GPT 4**, or **YouChat**, which simulate human interactions in conversational responses to researchers' inquiries. The concern for AI replacing human translators is valid but has not occurred yet.

Arguably, human translation is often considered to be of higher quality due to the skill and expertise of the translator[3], which often includes a deep understanding of the culture and an ability to convey the intended meaning and tone of the dialogue. While human translators seem more suitable for in-person interactions, GenAI translators may be more suitable for analysing and interpreting text.

Overcoming the language barrier has been one of the main goals of peace mediation processes. Even today, in a globalised technological world, many languages challenge peaceful humanity's existence. Gen AI's multilingual translation technology still has some challenges, as its accuracy can be compromised by data noise and bias[4]. They need to be able to pick up on subtleties and cultural nuances, using their judgement and knowledge to make informed decisions. AI has the potential to facilitate communication and dialogue in peace processes. Yet, the topic of GenAI and LLM applied to peace mediation has been scarcely explored in research, with few exceptions[5].

GenAI can simulate human-like interactions and offer better scalability for peace efforts in the future, though current risks of bias and discrimination remain. AI systems trained on biased data may perpetuate and exacerbate existing inequalities. This underscores the importance of identifying, addressing, and mitigating biases in AI technologies to ensure their positive impact on peace processes. Bias in AI algorithms can influence data analysis, decision-making, and resource allocation, potentially reinforcing inequalities or overlooking marginalized groups. Tackling bias requires diverse data representation, transparent algorithm development, rigorous testing, and involving stakeholders from various backgrounds in AI system development and evaluation.

Both AI and human translators have distinct strengths and weaknesses, presenting an opportunity to consider a complementary approach in peace processes. A hybrid model combining AI's speed and accuracy with human expertise is gaining interest. GenAI translation

[3] Ameh, M. M., & Sahari, Y. (2016). Artificial intelligence and human translation: A contrastive study based on legal texts. Heliyon, 10(6), e28106. https://doi.org/10.1016/j.heliyon.2024.e28106
[4] Lv, Z. (2023). Generative artificial intelligence in the metaverse era. Cognitive Robotics, 3. https://doi.org/10.1016/j.cogr.2023.100068
[5] Hirblinger, A. T. (2023). When mediators need machines (and vice versa): Towards a research agenda on hybrid peacemaking intelligence. International Negotiation, 28, 94–125. https://doi.org/10.1163/15718069-bja10079

tools use advanced machine learning algorithms and natural language processing techniques, while human translators bring skills necessary when AI systems struggle with complex linguistic structures, idioms, and cultural references.

Hybrid models integrating personal and digital interactions are already in use. For instance, in 2021, the **United Nations'** Special Representative in **Libya**, **Stephanie Williams**, led mediation efforts in 2021, that reached an estimated one million Libyans, navigating areas too dangerous for travel, partly due to COVID-19 restrictions. Other initiatives have employed AI tools, such as speech recognition technology, to analyze large datasets, as seen in a 2017 UN pilot project in Uganda that gauged public sentiment on issues ranging from climate change to refugee crises[6]. Further initiatives in the development space used AI tools such as speech recognition technology[7].

GenAI's capabilities have evolved significantly, but the rapid pace of technological advancement outstrips legislation and raises ethical questions, impacting public trust. Trust is a crucial component in every peace processes. To build trust around AI, there are three main aspects to consider:

- level of globally coordinated legislation
- implementation based on continued innovation and integration into broader verification frameworksand a focus shift on technological quotient.

Given the early stages of these developments, maintaining a healthy level of skepticism can prevent misuse, disuse, overtrust, and overreliance on AI systems[8] . The distinction between 'trustworthy' and 'appropriate' AI is crucial as these terms are intertwined; while trustworthy AI is human-centered, appropriate AI enables users to discern when to trust or distrust system recommendations and/or decisions. This is of relevant importance when GenAI is to be applied in mediation processes as trust is a major challenge for peace mediation processes. Trust-building requires a combination of cognitive and affective approaches, the latter being systematically more challenging to achieve, usually because of a lack of skills or resources. Cognitive is based on rational choices that facilitates reliable negotiations, while affective is based on emotional responses to the rational, be it information, signals, or events.[9]

GenAI is not yet fully capable of achieving the level of trust that human skills provide. Current GenAI applications, such as chatbots, can mimic human features and reasoning but still require human oversight. As technology progresses from conversational to problem-

[6] Pietromarchi, V. (2024, February 29). Can AI mediate conflict better than humans? Al Jazeera. https://www.aljazeera.com/news/2024/2/29/can-ai-mediate-conflict-better-than-humans

[7] UN Sustainable Development Group. (2017, September 12). Using machine learning to accelerate sustainable development solutions in Uganda. UNSDG. https://unsdg.un.org/resources/using-machine-learning-accelerate-sustainable-development-solutions-uganda

[8] Peters, T. M., & Visser, R. W. (2023). The importance of distrust in AI. Communications in Computer and Information Science. https://doi.org/10.1007/978-3-031-38676-2_15

[9] Gehrig, M., et al. (2023, March). Building trust in peace mediation. United States Institute of Peace.

solving chatbots, and eventually to autonomous agents capable of independent innovation, the integration of AI into peace efforts must proceed cautiously.

Peacebuilding is inherently a collaborative effort, making it prudent to view GenAI as a supporting tool rather than a singular decision-maker. Concerns about global conflict triggered by AI, whether through chatbots or other technologies, are currently speculative and covered in academic literature across six categories: apocalyptic terrorists, misguided moral actors, ecoterrorists, idiosyncratic actors, misaligned superintelligent machines, and belligerent extraterrestrials[10]. While AI regulation is crucial, it cannot foresee or cover all potential catastrophic, proverbial or human anhilitation scenarios.

As AI technology progresses, humanity seems to be entering a new era—whether termed the New Cold War, the Age of Revolutions, the Age of Unpeace, or the Age of AI[11]. Positioned between these emerging paradigms, advancements in AI transcend national boundaries, necessitating consideration in geopolitics and peace strategies. Although national borders are political and largely fictional constructs, they continue to shape international relations and conflicts. The challenge of rethinking geopolitics by recognizing the influence of major international cities over national borders suggests a paradigm shift towards governance that addresses AI challenges and fosters cross-border cooperation.

Somewhere in between the New Cold War and the Age of (Gen) AI, new developments in artificial intelligence transcends national borders, and this transnationality is to be considered in the areas of geopolitics and peace. It can be argued that all national borders are political borders, that is, fictional. This is an ongoing source of conflict. However, we continue operating based on this fiction rather than accepting the increasing influence of big international cities and how geopolitics should focus on governance and contribute to a neighbour's foreign policy instead. The complexity of challenging geopolitics by disputing the necessity of fictional national borders is a global paradigm shift requiring increasing consideration. Governance would have transnational power to address AI challenges, overcoming trust issues in its applicability.

The role of Governance in providing a global framework for AI is a collective component that needs to be reinforced with the individual component of gaining competency in the applicability of technology. The technology quotient (TQ), also referred to as digital quotient or digital intelligence, will become an essential part of human skills, just as much as emotional intelligence has earned greater attention in the last few decades. Since it is in the foreseeable future that superintelligent beings will surpass humans, the paradigm of human existence itself needs to change.

[10] Ferrara, E. (2024). GenAI against humanity: Nefarious applications of generative artificial intelligence and large language models. Journal of Computational Social Science. https://doi.org/10.1007/s42001-023-00202-3
[11] Ash, T. G. (2024, May 3). A new cold war? World war three? How do we navigate this age of confusion? The Guardian. https://www.theguardian.com/world/2024/may/03/a-new-cold-war-world-war-three-how-do-we-navigate-this-age-of-confusion

High TQ enables people to navigate digital environments, leverage new tools, and apply technology to solve problems, all of which are essential for integrating GenAI into peace processes. Integrating TQ with IQ (intelligent quotient) and EQ (emotional quotient) will play a practical and functional role in society, business, and education, quantifying the human "techno-status" of adoption and integration.

This integration of TQ into the broader skill set not only supports adaptability but also mitigates resistance to technological change, bridging the gap between human intuition and AI capabilities. This is relevant to broader implementation and increased trust perception. TQ individual component sits in the area of education, but the ability to accept and adopt is in the realm of neuroplasticity - a process that involves adaptive structural and functional changes to the brain[12]. Cognitive flexibility allows individuals to learn new skills, adopt innovative tools, and adjust their behavior in response to changing environments, including the integration of AI into daily life and professional practices.

As AI continues to evolve, the ability to retrain and reshape thought processes becomes increasingly important. Enhancing neuroplasticity through targeted educational strategies, such as problem-solving exercises, exposure to new technologies, and cross-disciplinary learning, can empower individuals to embrace GenAI and other digital innovations. By cultivating a mindset open to technological advancements, society can reduce the cognitive and emotional barriers that replace a culture of resistance and fear for a culture of adaptability and resilience. A broader use of GenAI cements acceptance and trust on tools for peace, too.

Conclusion:

GenAI is a powerful peace tool for data analysis, conflict prediction, and mediation support. It enhances efficiency and scalability, processing information and performing tasks much faster than humans. This leads to quicker responses and more efficient use of resources in peacebuilding operations. It can assist peace mediators by reviewing documents for inconsistencies, identifying biases, and highlighting potential conflict flashpoints, thereby informing more effective conflict resolution strategies. This can contribute to more informed conflict resolution strategies and allow for proactive diplomatic interventions and preventative measures. Peace lies on the power of identifying, preventing and/or mitigating potential sources of tension.

Realising the full potential of GenAI for peacebuilding necessitates addressing several critical considerations. Addressing these key areas will not only maximize the impact of GenAI but also uphold the ethical standards and human values that are fundamental to peace processes:

[12] Puderbaugh, M., & Emmady, P. D. (2023, May 1). Neuroplasticity. In StatPearls [Internet]. StatPearls Publishing. Available from https://www.ncbi.nlm.nih.gov/books/NBK557811/

-Bias Mitigation: AI systems are inherently shaped by the data on which they are trained, and if this data is biased, the resulting algorithms can perpetuate and even exacerbate existing inequalities and prejudices. In the context of peacebuilding, biased AI can affect conflict monitoring, resource allocation, and decision-making, potentially overlooking marginalized communities or reinforcing harmful stereotypes. To combat this, a multi-faceted approach is necessary, involving diverse data representation, transparent algorithm development, and rigorous testing protocols. By engaging stakeholders from various backgrounds in the development and evaluation of AI systems, it is possible to identify and mitigate biases, ensuring that AI tools contribute positively and equitably to peace processes.

-Building Trust and Transparency: A recent study by the **University of Queensland** showed that three out of five people, or 61% are either ambivalent or unwilling to trust AI systems[13]. Increasing trust is paramount for the successful implementation of AI in peacebuilding. Authenticity and a shared understanding in the mediation process are the best approaches. GenAI is not yet capable of replacing human judgement and empathy in peace processes, and the general public still treats it with a cautionary attitude. GenAI can also create distrust as it questions each party's digital equity and inclusivity in the mediation process.

-The need for a global framework and technological competency: The transnational nature of AI challenges traditional regulatory boundaries, necessitating a globally coordinated framework to govern its development and application in peace processes. Such a framework should include agreed-upon principles, best practices, and independent oversight to ensure that AI technologies are used responsibly and ethically. Additionally, as technology rapidly evolves, building technological competency—or TQ—within the global workforce is essential. By enhancing TQ, individuals can better understand and integrate AI tools into their work, increasing both acceptance and effectiveness in peace initiatives. This effort should be supported by educational programs that focus on digital literacy, ethics, and the practical application of AI in conflict resolution.

-The evolving nature of conflict and peacebuilding: Integrate into context the changing landscape of global conflict, moving away from traditional interstate warfare towards more complex scenarios involving non-state actors, technological advancements, and disinformation. This necessitates new approaches to peacebuilding that leverage technology responsibly while upholding human values and judgment.

[13] Gillespie, N., Lockey, S., Curtis, C., Pool, J., & Akbari, A. (2023). Trust in artificial intelligence: A global study. The University of Queensland and KPMG Australia. https://doi.org/10.14264/00d3c94