Terminologists as Stewards of Meaning in the Age of LLMs: A Digital Humanism Perspective

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Abstract. Digital Humanism calls for a reconfiguration of the development of digital technologies that embeds interdisciplinary collaboration, ethical reflexivity and critical scrutiny into both the design and evaluation of these systems. From a Digital Humanism perspective, terminologists play a vital role in safeguarding language understanding in specialized domains where clarity and consistency are critical (in both monolingual and multilingual contexts). This conceptual paper, therefore, examines the role of terminologists (and terminology) in the era of LLMs, with a focus on their function as stewards of meaning in specialized communication. The study draws on the principles of Digital Humanism to critically assess how terminologists can counteract various ethically and epistemologically problematic features characterizing current LLM development and deployment. In this regard, terminologists can ensure terminological precision, help preserve linguistic diversity and knowledge excluded in LLMs. They may also support inclusive, transparent and accountable digital infrastructures. By documenting system- and variety-specific terms, they counteract the homogenizing tendencies of LLMs and challenge epistemic monopolies. Their expertise bridges disciplines and reinforces that language is not neutral, but culturally and institutionally embedded. As educators and stewards of meaning, terminologists empower users to critically engage with LLM outputs, ensuring that language technologies remain ethically grounded and responsive to human contexts and values.

1 Introduction

The rapid advancement of generative artificial intelligence (AI), particularly large language models (LLMs) such as ChatGPT, Gemini or DeepSeek, has sparked both fascination and concern across academic [12, 26], political and society domains [31], including language learning [27], (higher) education [7] and language understanding [18, 32, 43]. LLMs are used across a wide range of applications [42] involving natural language understanding. Recent advances in LLMs challenge traditional views that machine language understanding is purely syntactic by proposing that, through semantic fragmentism and partial grounding mechanisms, LLMs can achieve a form of meaning attribution that explains their effective, albeit limited, capacity for natural language understanding [15]. With regard to language understanding, LLMs might even "serve as plausible models of language understanding in humans" [28].

Their code and text generation capabilities (in several languages) allow for the creation of coherent content suited to diverse contexts. For knowledge-intensive tasks, LLMs offer access to extensive embedded domain knowledge. Their reasoning abilities can enhance decision-making and problem-solving processes. Moreover, LLMs are well-suited for real-world scenarios, as they can process noisy input, address ill-structured problems and respond effectively to human instructions when properly aligned [42]. While these technologies offer unprecedented capabilities in natural language processing, content generation and automated decision-making [42], this 'AI revolution' [41], which is mainly led by (large) tech companies in the US and China [20] gives rise to social inequality (both between and within countries) [41]. Furthermore, it comes with enormous environmental costs [6]. Therefore, the development and deployment of digital technologies have prompted a wave of critical responses, especially from scholars in the humanities and social sciences. One of the most influential responses comes from the perspective of Digital Humanism [39], a movement that seeks to reassert human values, agency and responsibility in the face of digital technologies.

2 The role of terminologists

Similar to other language and communication professionals, the role and work of terminologists is impacted by the emergence of large language models and generative artificial intelligence in general. Terminologists as language professionals systematically collect, analyze, manage and disseminate domain-specific terms [30]. As terminologists are working at the interface of knowledge, information and data, they are also referred to as knowledge managers, as they model knowledge and structure information [10] for specialized communication purposes. Terminologists play a crucial role in ensuring clarity, precision and consistency in specialized communication, including technical writing, translation, legal services, research and development as well as language planning [30].

As the name suggests, terminologists work with terminology understood as the "set of designations [...] and concepts [...] belonging to one domain [...] or subject [...]" [17]. Therefore, terminologists play a central role in ensuring understanding in specialized fields of communication, including technical, legal or corporate communication. Among the traditional tasks of terminologists are the management of terminology to ensure clarity, consistency and accuracy in specialized communication. Their work includes compiling monolingual or multilingual terminologies, conducting documentation and corpus-based searches, defining concepts and creating concept systems. Terminologists also engage in terminology planning, such as developing language policies, coining new terms and supporting standardization. They manage and maintain terminology

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databases, advise (and train) various stakeholders (e.g. translators, technical writers) and often play a key role in training and education. Their tasks support effective communication across disciplines, languages and institutional contexts [30].

3 Language understanding and terminology

Terminology plays a pivotal role in enabling language understanding, particularly in specialized domains where clarity and consistency are critical (in both monolingual and multilingual contexts). At its core, terminology work is "concerned with the systematic collection, description, processing and presentation of concepts [...] and their designations" [17]. In contrast to general language [17], which often tolerates ambiguity and polysemy, terminology focuses on the systematic representation of domain-specific concepts and their designations, thereby ensuring semantic clarity and disambiguation (ISO 704:2009). Integrated into other (language technologies), terminological resources (such as controlled vocabularies, terminology databases and concept systems) can be used to enhance lexical consistency and support contextual reasoning by encoding hierarchical and associative relations between concepts [25].

Furthermore, terminology is embedded within specific domains, systems (such as legal systems) and contexts, all of which are essential for language understanding, whether by humans or machines. As LLMs generate increasingly fluent text in several languages, terminology therefore provides an epistemological scaffold that helps align these outputs with domain knowledge and institutional realities. Without terminological grounding, computational language understanding risks producing outputs that are linguistically plausible but semantically imprecise or culturally inappropriate. This means that, without terminology, language understanding is incomplete in fields of specialized knowledge. However, LLMs often abstract terminology from its conceptual and disciplinary moorings, risking terminological drift and the erosion of communicative precision in specialized domains such as law, medicine or engineering.

Amid the current (technological) transformations, the role of terminologists warrants renewed scholarly attention. As experts who safeguard the integrity of a language for specific purposes through terminology and ensure the contextual coherence of specialized language, terminologists are uniquely positioned to address the ethical and epistemic challenges posed by LLMs. Framing this inquiry through the lens of Digital Humanism (as articulated in the *Vienna Manifesto on Digital Humanism*) allows for a critical exploration of how language professionals can uphold human agency, domain knowledge and linguistic diversity in the face of automation and algorithmic decision-making.

This conceptual paper examines the role of terminologists in the age of large language models, with a focus on their function as stewards of meaning in specialized communication. The study draws on the principles of Digital Humanism, particularly those outlined in the *Vienna Manifesto on Digital Humanism*, to critically assess how terminological practice can counteract various ethically and epistemologically problematic features characterizing current LLM development and deployment. Therefore, the research question is: What is the role of terminologists as stewards of meaning in specialized communication in the age of large language models, and how can Digital Humanism guide their practice? The paper will not address technical aspects of LLM architecture or training but will instead focus on the epistemological, ethical and communicative dimensions of terminology work in human-machine language interaction.

4 Method

This conceptual paper combines elements from both terminology studies and Digital Humanism, while addressing the epistemological and socio-technical dimensions of the role of terminologists in language understanding in an era shaped by LLMs.

4.1 Digital Humanism

Digital Humanism is a normative and interdisciplinary approach that places human beings, their values and societal needs at the center of digital transformation [22]. It is thus a human-centered approach to digital technologies that affirms human authorship, responsibility and freedom in the digital age [23]. It sees digital technologies not as autonomous agents or replacements for human intelligence, but as tools that can expand human capacities [24] and promote the values of human dignity, autonomy and social responsibility. It offers an alternative to technocratic or market-driven narratives of digitalization [22] by arguing that technology should serve human flourishing rather than subordinate it. "Digital Humanism is technology-friendly, but also human-friendly" [24] and "insists that digitalization be used for the benefit of people" [24]. Digital Humanism critically engages with the negative effects of unregulated and profit-driven digitalization, including [22] the monopolization of data and services by big tech, the opacity in private-sector algorithms versus surveillance of individual users as well as social polarization and manipulation through digital platforms. It also critiques the neglect of democratic control and erosion of digital commons, the growing power asymmetry between technology companies and citizens, governments and institutions [22], as "institutions and governments are becoming more and more powerless in the face of the predominant technologies and are facing unintended lock-in effects" [22]. Digital Humanism also critiques how technologies embed hidden social values and biases within code and infrastructures, often without public scrutiny [22]. In this vein, Digital Humanism responds to two opposing trends: On the one hand, the ideologization of technology [24] that elevates algorithms and software systems to decision-making authorities (technocratic determinism), and, on the other hand, the reduction of human agency, where individuals are treated as mere variables in optimization systems, often embedded in opaque, data-driven infrastructures. It critiques the responsibility diffusion, loss of autonomy and ethical flattening found in many current applications of digital technologies, including LLMs. The core aim of Digital Humanism is to reclaim human agency in digital systems by actively shaping digital technologies in accordance with ethical, democratic and humanistic values. It encourages the development of human-centered, socially responsible innovation and advocates for digital technologies that promote democracy, inclusion and (digital) justice. It also emphasizes the importance of critical digital education and interdisciplinary collaboration to ensure that future digital ecosystems reflect societal needs [22]. Therefore, an important element of Digital Humanism is "the need for criticism" [22]. In education, there is a call for "[h]umanics' three new literacies — technological, data, and human" [3]. The aim of Digital Humanism is to strengthen individual and collective autonomy, power of judgment and decision-making in digital contexts [24]. Digital technologies "are merely a support, not a substitute" for human decision-making, which should be based on the rule of law [24]. Furthermore, digital technologies should be used instrumentally, enhancing life, knowledge and democracy without substituting human reasoning or values [24]. Digital Humanism also aims to balance innovation with ethical responsibility, promot-

ing technologies that serve human well-being, not market or surveillance interests alone [24]. The core principles of Digital Humanism are therefore:

- Human primacy and humane design: Humans must remain central in all decisions with ethical consequences. Digital technologies, including LLMs should only support, not replace, human agency [24]. Digital systems must serve human interests and social good, not replace human judgment or concentrate control in unaccountable systems [22].
- Instrumental rationality: Digital tools should serve cultural, social and democratic goals, not define them [24].
- Transparency and responsibility: Digital systems must be designed and governed to strengthen democracy, informational self-determination and interpersonal communication, while avoiding manipulation and surveillance [24]. Designers, developers and policymakers must be held accountable for the social consequences of digital infrastructures [22].
- Digital democracy and inclusion: Technologies should enhance democratic participation and resist the rise of anti-democratic or polarizing forces [22].
- Ethical sobriety, reflection and critique: Digital Humanism promotes a reflective, non-utopian and non-apocalyptic stance toward digital transformation, grounded in practical ethics and humanistic philosophy [24]. Digital transformation must be accompanied by ongoing critical analysis of its impacts on memory, identity and knowledge [22].
- Educational transformation: A new form of education (combining technological, data and human literacy) is essential for preparing students to navigate and shape digital societies responsibly [3].

The *Vienna Manifesto on Digital Humanism* [38] advocates for a human-centered approach to digital transformation that prioritizes democracy, inclusion and fundamental rights: "We must shape technologies in accordance with human values and needs, instead of allowing technologies to shape humans" [38]. It calls for digital technologies to be designed in ways that empower individuals and reduce inequalities, placing privacy and freedom of expression at the core. It stresses the need for transparent, accountable and fair algorithms, supported by publicly debated regulation. The Manifesto warns against unchecked power of tech monopolies and insists that critical, rights-impacting decisions remain under human responsibility. It promotes interdisciplinary collaboration, particularly between technology and the humanities and highlights the unique role of universities and education in fostering critical digital literacy. Finally, it underscores that technology is not neutral and urges all stakeholders (developers, researchers, educators) to reflect on the societal impact of their work and to adopt ethically responsible practices [38].

4.2 Digital Humanism and LLMs

LLMs, such as OpenAI's GPT, are at the center of current Digital Humanism discourse. These systems illustrate both the transformative capacity and the epistemological risks of machine learning applied to language. On the one hand, LLMs demonstrate the remarkable potential of data-driven systems to process, generate and translate natural language at scale [9]. On the other hand, they embody core concerns raised by Digital Humanism: they reproduce social and linguistic biases, obscure the provenance of knowledge, risk eroding linguistic and cultural nuance and may displace human interpretive authority by opaque algorithmic processes. From a Digital Humanism perspective, they challenge traditional notions of authorship and expertise, raising critical concerns about who controls language resources and language technologies, what types of knowledge are encoded or omitted, and how semantic frameworks are shaped in algorithmic environments. This prompts a re-evaluation of what it means to steward meaning in an age shaped by texts produced (and revised) by means of LLMs. From a Digital Humanism perspective, this calls not for the wholesale rejection of LLMs, but for their critical governance, ensuring that semantic infrastructures reflect shared values and remain accountable to human interpretive authority. From the Manifesto, we can extrapolate that current trajectories in AI risk undermining core democratic principles by centralizing power in the hands of a few technology companies, obscuring decision-making processes. From a terminology perspective, also marginalizing non-dominant domain and linguistic contexts is an issue. Since Digital Humanism argues that technologies like LLMs are not neutral tools but cultural artifacts that reflect and reinforce specific epistemologies and ideologies, terminologists need to be aware of that and the effect on language understanding when using LLMs for terminology work. The critique focuses particularly on the lack of transparency, inclusivity and accountability in the training, deployment and use of LLMs. In an age of LLMs, we may also question the epistemic authority that LLMs seem to assume by producing plausible-sounding outputs that may be incorrect or fabricated (hallucination). More fundamentally, we may critique the tendency of LLMs to obscure the ontological and political nature of language, treating meaning as a probabilistic byproduct rather than a socially negotiated and contextually bound construct. Within the meaning of the *Vienna Manifesto on Digital Humanism*, LLMs (or AI in general) should not displace human judgment, interpretation and responsibility, especially in high-stakes domains such as health, law and public policy (which are also fields where terminology is essential). Instead, generative AI must be designed to support human agency, not replace it, and must respect the socio-cultural plurality of the contexts in which it is deployed.

5 Terminologists as stewards of meaning

The following section examines the role of terminologists as stewards of meaning through the lens of Digital Humanism, bridging the domains of specialized language understanding, as well as broader practices of knowledge and data governance. The focus is on commercial LLMs deployed by technology companies, rather than those developed by terminologists themselves. Each subsection addresses one or several of the key principles of the *Vienna Manifesto on Digital Humanism*, whereby the verbatim quote of the Manifesto's principle is provided at the beginning of the subsection.

5.1 Democracy and inclusion

"Digital technologies should be designed to promote democracy and inclusion. This will require special efforts to overcome current inequalities and to use the emancipatory potential of digital technologies to make our societies more inclusive" [38].

Language is not only a medium for information, but a space for interpretation, identity and power [40]. Not only in the Digital Humanism movement but also within the field of language technology development, voices are concerned with the (unintentional) negative impact of LLMs: "It is imperative not to let [... LLMs] inadvertently optimize for undesirable outcomes. This calls for a proactive approach: rather than retrospectively fixing misaligned models, alignment techniques should be integral from the onset of model develop-

ment" [42]. Of course, this cannot be the task of terminologists alone, but within the framework of language understanding and specialized language, terminologists can contribute to ensuring inclusion. Terminologists can contribute to inclusive digital infrastructures by preserving linguistic diversity and ensuring that terms (or specialized language in general) across domains and languages, including non-dominant varieties, are accurately represented and respected in technological systems like LLMs. Their work can enable equitable access to domain knowledge for different language communities.

This is, for example, relevant in the field of domain loss: Several languages experience domain loss due to the predominance of English as a lingua franca (in academia). Domain loss refers to the progressive inability to use a national language for effective communication within a specialized field of knowledge, resulting from an insufficient development of the means required for professional communication [19]. The use of English as a lingua franca in academic publications and communications across disciplines may lead to the devaluation of languages other than English as legitimate vehicles for academic thought [33]. Terminologists play a crucial role in counteracting domain loss and promoting linguistic diversity in scientific and academic communication. By preserving and expanding multilingual terminologies in and across domains (together with domain experts), they can support authors in writing texts, translating and adapting their ideas in contextually appropriate ways. In the context of language technologies, these resources can be used to promote underrepresented languages or allow for terminology-augmented generation of texts (which will be addressed later). Additionally, terminologists can advise on language policy and advocate for the (language) rights of underrepresented and low-resource language communities. Through interdisciplinary and cross-border collaboration, they help align terminology work with broader goals of Digital Humanism and sustainability, reinforcing the value of multilingualism in the knowledge society.

Emerging forecasts suggest that advances in AI may lead to a "post-knowledge society" in which knowledge itself becomes less central than interpersonal relationships and social identity [41]. Within the domain of terminology work and in light of the evolving role of terminologists, this projection raises critical questions about the future function of terminology in domains where precise language understanding remains essential. With regard to the role of the knowledge society and knowledge in general, the 'knowledge' enshrined in LLMs is a valuable resource for terminologists. However, despite widespread perceptions of omniscience, LLMs do not encompass 'all the knowledge of the world'. Their training data are drawn from vast but ultimately finite corpora (largely composed of web-based content [37] leaving significant epistemic gaps. Vast bodies of knowledge (particularly from oral traditions, texts not available on the Internet or pay-walled academic literature as well as knowledge enshrined in cultural practices, such as drama, music or ceremonies [14] are either only superficially represented or entirely absent. These absences stem from multiple factors: the scarcity of digitized and publicly available resources [37] in many global languages; the marginalization of oral and indigenous knowledge systems that do not fit text-based, Western-centric data paradigms; copyright restrictions that limit the inclusion of scholarly and proprietary content and institutional biases that deprioritize the documentation of certain epistemologies. Additionally, emerging or rapidly evolving knowledge may not be captured in training data frozen at a particular point in time, and context-dependent cultural knowledge is often distorted by generalized representations. Thus, what LLMs offer is not a complete or neutral reflection of global knowledge, but a filtered and often uneven synthesis of what has been digitized, made accessible and deemed algorithmically processable. This highlights the need for more inclusive and ethically governed knowledge infrastructures, in which terminologists can play a vital role in addressing the epistemic risks associated with moral absolutism in LLM alignment, particularly where such alignment practices risk reproducing the coloniality of knowledge [36].

A central feature of the coloniality of knowledge is the dominance of Western epistemologies, which are imposed as universal standards, often at the expense of marginalizing or erasing non-Western ways of knowing [36]. Colonialism has historically reshaped the beliefs and value systems of colonized populations. Some scholars [36] argue that this legacy is being mirrored in contemporary practices and technologies related to the alignment of LLMs. In response, Varshney [36] advocates for a decolonial approach to AI alignment, grounded in three forms of openness: openness of the models themselves, openness to societal input and openness to historically excluded forms of knowledge [36]. Furthermore, values should not be treated as universally applicable; instead, they ought to be grounded in the specific social and cultural contexts of the communities where the LLM is intended to be used [36].

As language professionals deeply engaged with the socio-cultural, historical and epistemological underpinnings of specialized language(s) and discourse(s), terminologists are well positioned to identify and counteract the imposition of dominant value systems and normative hierarchies through language technologies. Their expertise enables the documentation and integration of excluded knowledge.

With regard to inclusion, the term social justice also plays a role. For example, the use of low-cost labor from regions such as Nigeria and Kenya in OpenAI's reinforcement learning process [29] raises ethical concerns about global labor inequalities in AI development. Beyond economic exploitation, the linguistic input of these workers, such as regional usage of words may subtly shape language models like ChatGPT, embedding unintended cultural or regional biases. This highlights a broader ethical tension between the invisible labor behind AI systems and their linguistic outputs, which may reflect underacknowledged global asymmetries in both influence and compensation [5]. However, some authors [2] argue that it is impossible to create "fair LLMs". They advocate for "the more realistic goal of achieving fairness in particular use cases: the criticality of context, the responsibility of LLM developers, and the need for stakeholder participation in an iterative process of design and evaluation" [2]. Terminologists represent a critical stakeholder group positioned to address issues of domain-specific and linguistic representation in the development and evaluation of LLMs.

LLMs are often trained on dominant languages [5] and mainstream discourses, which risks homogenizing language use and marginalizing less-resourced languages, niche terminologies [16] and non-dominant discourses, among others. Terminologists help preserve linguistic diversity by developing and documenting terminology in underrepresented languages or domains, resisting the monolingual and monosemous tendencies of LLM-generated content.

Terminologists can provide their terminologies (in different forms) either during training or during generation, such as for terminology-augmented generation [11] or knowledge-graph-augmented generation [1], so that variety-sensitive and system-bound terminology is represented in prompts, terminology databases and model training. Terminology-augmented generation (TAG) [11] enhances terminological tasks by integrating curated domain knowledge into language model workflows. Key use cases include multilingual term extraction with disambiguation, such as distinguishing polysemous terms

in specialized domains; automatic generation or refinement of concept definitions aligned with domain-specific templates; and relation extraction at both conceptual and lexical levels, enabling taxonomic structuring and variant harmonization. TAG also facilitates multilingual term alignment and translation, particularly in sensitive domains like law and healthcare, by anchoring terms in shared conceptual representations. TAG thus complements the work of terminologists by increasing precision, contextual relevance and efficiency while preserving transparency and quality [8].

Language is deeply embedded in culture and LLMs often flatten or erase cultural specificities. Terminologists may uphold these specificities by collecting and maintaining local terminologies, especially concepts that may not have equivalents in dominant languages. In this regard, terminologists may also contextualize terms in their sociocultural frames (such as sociocognitive terminology [34]), thus also contributing to knowledge diversity. In addition, they may advocate for multilingualism and linguistic diversity (also within a language), resisting the homogenizing effects of English-centric LLMs.

5.2 Privacy and freedom of speech

"Privacy and freedom of speech are essential values for democracy and should be at the center of our activities. Therefore, artifacts such as social media or online platforms need to be altered to better safeguard the free expression of opinion, the dissemination of information, and the protection of privacy" [38].

Terminologists act as ethical gatekeepers by ensuring that the use of language in technical systems aligns with human values, rights and dignity. LLMs, while powerful, can reproduce biases, stereotypes or misleading generalizations if not guided by human oversight. Terminologists intervene by promoting non-discriminatory terminology (e.g. inclusive language around gender, ethnicity, ability). They avoid technocratic ambiguity where unclear terminology could lead to misinterpretation or harm (e.g. in healthcare or law). They encourage transparency and consent in the use and reuse of terminological data in AI systems.

5.3 Regulations

"Effective regulations, rules and laws, based on a broad public discourse, must be established. They should ensure prediction accuracy, fairness and equality, accountability, and transparency of software programs and algorithms" [38].

"Regulations need to intervene with tech monopolies. It is necessary to restore market competitiveness as tech monopolies concentrate market power and stifle innovation. Governments should not leave all decisions to markets" [38].

The development of LLMs often lacks transparency and public oversight. In addition, LLMs are controlled by a few dominant actors [4], restricting access to language technologies. Therefore, the current dominance of a few proprietary LLM providers risks epistemic centralization. Terminologists may counter this by offering plural, decentralized reference frameworks and preserving knowledge heterogeneity. Digital Humanism calls for epistemic accountability in how information is produced and attributed. Terminologists contribute to this by ensuring clear sourcing of terms, definitions and concept systems (an area where LLMs often fall short by producing content without verifiable references). By providing their terminologies, e.g. terminology databases to LLMs, such as in the form of terminology-augmented generation [11], terminologists make language technologies more trustworthy and adaptable. As LLMs generate terminological content without always indicating source, scope or system context, terminologists act as critical agents ensuring terminological transparency. They trace sources and clarify domain-specific meanings. Terminological work grounded in normative or institutional sources reinforces the traceability and trustworthiness of knowledge. To counter the concentration of power in tech monopolies, terminologists can support open knowledge infrastructures by creating and maintaining open, FAIR-compliant (Findable, Accessible, Interoperable, Reusable) and CARE-compliant (Collective Benefit, Authority to Control, Responsibility, Ethics) terminological resources that are not locked into proprietary platforms and ensure that language resources are used for collective benefit. These resources can empower smaller companies, public institutions and NGOs to build transparent and competitive AI systems.

5.4 Decisions by humans and human oversight

"Decisions with consequences that have the potential to affect individual or collective human rights must continue to be made by humans. Decision makers must be responsible and accountable for their decisions. Automated decision-making systems should only support human decision-making, not replace it" [38].

LLMs can generate misleading or biased outputs, unsuitable for sensitive domains like health, law or education. Here, terminologists ensure critical review and validation of LLM outputs: Terminologists are important stakeholders in verifying the output of LLMs, ensuring that the LLM output is precise and accurate for the content and (sub-)domain at hand. This is due to the fact that LLMs often generate fluent but semantically imprecise or decontextualized text, which can lead to misunderstandings or misinformation. Unlike LLMs, which typically operate without an explicit conceptual model, terminologists build structured concept systems (including taxonomies, ontologies) that clarify the relationships between different concepts. This work is vital for interpretability and semantic interoperability in digital systems, supporting human oversight (in multilingual environments).

The terminologist's role here is to ensure that the LLM's language use reflects accepted domain knowledge and to intervene where hallucinations, simplifications or domain mismatches occur. Crucially, terminologists reinforce the principle that meaningful decisions must remain human-led. While LLMs may simulate definitions or relations, terminologists can assess whether a term accurately represents a concept within its cultural, institutional and linguistic context (especially in multilingual or system-bound environments). In contrast to opaque automated outputs, terminologists foreground expert knowledge and conceptual clarity, ensuring that decision-making processes grounded in language (e.g. in legal, medical, academic domains) remain intelligible and interpretable to humans.

LLMs increasingly perform tasks involving the automatic generation, recognition and translation of domain-specific terminology. However, as mentioned before, these systems often operate without transparent conceptual frameworks, leading to superficial or misleading usage of terms, especially in specialized or multilingual contexts. From a Digital Humanism perspective, such decontextualized automation risks detaching language from human thought, practice and meaning. Terminologists intervene precisely at this junction: they ground terms (or rather their concepts) in their epistemological, disciplinary and institutional origins.

5.5 Cross-disciplinary scientific approaches

"Scientific approaches crossing different disciplines are a prerequisite for tackling the challenges ahead. Technological disciplines such as computer science / informatics must collaborate with social sciences, humanities, and other sciences, breaking disciplinary silos" [38].

LLM research is often driven by computational priorities, with limited attention to linguistic, social or ethical dimensions. Terminologists, as interdisciplinary practitioners drawing on terminology studies, translation, linguistics, subject expertise, information science and increasingly AI ethics [35] are well positioned to bridge technological developments with critical humanistic inquiry. They play a vital role in advancing the Manifesto's call for knowledge production grounded in critique and dialogue.

5.6 Engagement with society

"Academic and industrial researchers must engage openly with wider society and reflect upon their approaches. This needs to be embedded in the practice of producing new knowledge and technologies, while at the same time defending the freedom of thought and science" [38].

LLM development often lacks accountability or participatory input. As terminologists are used to working with different actors, such as domain experts, managers or users of terminology [30], they can play a vital role in ensuring engagement with society in language technology development in general. As terminologists are also training other people [30], they are equipped for participatory technology development. So, terminologists might engage in public-facing educational and outreach efforts as well as participatory (LLM and language technology) design.

5.7 Shared responsibility

"Practitioners everywhere ought to acknowledge their shared responsibility for the impact of information technologies. They need to understand that no technology is neutral and be sensitized to see both potential benefits and possible downsides" [38].

Developers of LLMs may overlook linguistic or cultural implications of LLM outputs. Terminologists can help identify and mitigate risks of semantic distortion, misinformation, epistemicide (see [13]) or (knowledge) bias in LLM outputs.

From the perspective of Digital Humanism, which emphasizes the ethical shaping of technology in alignment with human values, terminologists bear a critical shared responsibility in the design, deployment and governance of information technologies, including LLMs. Therefore, terminologists have to value and argue for transparency in socio-technical systems. However, "[w]ithout a clear understanding of how these models arrive at their conclusions, ensuring their alignment with human values becomes an uphill battle" [42].

In alignment with the principle that *no technology is neutral*, terminologists can help uncover and challenge embedded epistemological and domain biases in AI systems. As LLMs are more and more integrated into different processes, including technical documentation, healthcare, legal systems and public policy, the risks of terminological drift, bias or overgeneralization increase. Terminologists recognize that terminology does not simply describe the world: it shapes how we think and act in it. Their work carries ethical weight, especially when LLMs are deployed in multilingual and multicultural contexts. Therefore, the work of terminologists enables stakeholders to critically examine how LLM output, including the terms contained in it, may reinforce hegemonic worldviews, exclude or marginalize knowledge systems or distort concepts. This can help to anticipate both the affordances and the ethical limitations of LLMs. Furthermore, terminologists play a proactive role in cultivating reflective awareness among developers, technology users and policymakers. Terminologists, as practitioners within the broader digital framework, exemplify the call to recognize and assume shared responsibility for how language technologies shape human interaction, knowledge production and societal structures (in specific domains and beyond). Recognizing that no technology is neutral, terminologists confront the ethical stakes of terminological decisions in LLMs. They bring attention to how seemingly technical choices can shape public understanding, institutional practice and user experience.

5.8 Education, curricula and social impact

"A vision is needed for new educational curricula, combining knowledge from the humanities, the social sciences, and engineering studies. In the age of automated decision making and AI, creativity and attention to human aspects are crucial to the education of future engineers and technologists" [38].

"Education on computer science / informatics and its societal impact must start as early as possible. Students should learn to combine information-technology skills with awareness of the ethical and societal issues at stake" [38].

As Digital Humanism calls for educational reform that integrates technical knowledge with ethical reflection and cultural awareness, terminologists can help shape interdisciplinary curricula (as their work is interdisciplinary by nature) for the age of AI and automated decision-making. As experts in the structuring of knowledge and linguistic representation across domains, terminologists can contribute to the design of educational frameworks that do not only bridge the humanities, social sciences and engineering but also reflect the importance of precise communication, intercultural sensitivity and epistemological diversity. These are also essential for fostering critical thinking and ethical discernment among future technologists.

AI literacy is emerging as a new competence in the digital age. It "enables individuals to critically evaluate AI technologies; communicate and collaborate effectively with AI; and use AI as a tool online, at home, and in the workplace" [21]. Thus, AI literacy equips individuals with the knowledge and critical awareness needed to navigate, interact with, and make informed decisions about artificial intelligence technologies in everyday life and professional contexts. However, AI literacy often neglects terminology, linguistic variation and epistemic framing. Therefore, terminologists may (help) design curricula that integrate terminology work, language diversity and critical digital literacy into interdisciplinary education.

Digital Humanism emphasizes reflexivity, namely the ability to critically assess the societal impacts of technology. Terminologists, especially those trained in the humanities, are well-positioned to critique the use of LLMs in sensitive domains (e.g. healthcare, governance) and to foster AI literacy by making the conceptual underpinnings of automated language technologies more transparent and accessible. In their pedagogical roles, terminologists exemplify the interdisciplinary and human-centered mindset that Digital Humanism promotes.

6 Conclusion

From a Digital Humanism perspective, terminologists play a crucial role as stewards of meaning, particularly in the context of rapidly ad-

vancing LLMs. Their responsibilities extend beyond traditional terminology management to include ethical, cultural and epistemological guardianship in the face of LLMs that process, generate and circulate language on a massive scale.

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