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# THE ROLE OF ANTHROPOMORPHISM IN TECHNICAL DISCOURSE: LINGUISTIC OBJECTIFICATION OF MACHINES AND ALGORITHMS

**Abstract**. This article examines the role of anthropomorphic language in contemporary technical discourse, with particular focus on texts describing artificial intelligence systems and computational algorithms. Anthropomorphism – the attribution of human traits, intentions, emotions, and cognitive capacities to non-human entities – has become a pervasive structuring feature of the language used to describe AI across academic publishing, corporate communication, and journalistic reporting. Rather than treating this phenomenon as a peripheral stylistic matter, the study approaches it as a substantive epistemic, rhetorical, and ethical issue with far-reaching consequences for how intelligent technologies are understood, trusted, regulated, and governed.

The article proposes a three-part linguistic taxonomy of anthropomorphic expression in technical registers, distinguishing between lexical anthropomorphism

– the deployment of mentalistic vocabulary such as *knows*, *decides*, *understands*, and *feels* – syntactic anthropomorphism, whereby technical systems are positioned as agentive grammatical subjects of volitional predicates, and metaphorical framing, through which sustained conceptual mappings such as *computer as mind* organise entire disciplinary vocabularies.

Drawing on naturally occurring examples from AI research literature, technology company communications, and mainstream journalism, the analysis demonstrates that anthropomorphic language is not incidental to these discourses but is institutionally reproduced and commercially incentivised within them.

The study further identifies the principal functional drivers of anthropomorphic usage: communicative economy, conceptual scaffolding for non-specialist audiences, commercial persuasion, and disciplinary inertia. It argues, however, that these pragmatic advantages carry significant epistemological and ethical costs.

Most critically, anthropomorphic framing systematically misrepresents the locus of agency in sociotechnical systems, displacing accountability from the human designers, deployers, and regulators of AI onto the systems themselves. It also distorts public risk perception in ways that simultaneously foster unwarranted trust and activate culturally embedded fears of malevolent machine agency – both of which impede informed public deliberation.

The article concludes by calling for the development of critical metalinguistic awareness as a professional and civic competency, and identifies corpus-based, experimental, and cross-linguistic research as priority directions for future scholarly investigation.

**Keywords**: anthropomorphism, technical discourse, artificial intelligence, cognitive linguistics, critical discourse analysis, agency attribution, AI communication.

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## АНТРОПОМОРФІЗМ У ТЕХНІЧНОМУ ДИСКУРСІ: МОВНА ОБ'ЄКТИВАЦІЯ ОБРАЗУ МАШИН ТА АЛГОРИТМІВ

**Анотація.** У статті досліджується роль антропоморфної мови в сучасному технічному дискурсі, з особливим акцентом на текстах, що описують системи штучного інтелекту та обчислювальні алгоритми.

Антропоморфізм – приписування людських рис, намірів, емоцій і когнітивних здібностей нелюдським сутностям – став наскрізною структурною ознакою мови, що використовується для опису штучного інтелекту в академічних публікаціях, корпоративній комунікації та журналістських матеріалах. Замість того щоб розглядати це явище як периферійну стилістичну особливість, у дослідженні воно трактується як суттєва епістемічна, риторична та етична проблема, що має далекосяжні наслідки для того, як інтелектуальні технології сприймаються, як їм довіряють, а також як вони регулюються та управляються.

У статті запропоновано трирівневу лінгвістичну таксономію антропоморфних висловлювань у технічних регістрах, що розрізняє: лексичний антропоморфізм – використання менталістичної лексики на кшталт *знає*, *вирішує*, *розуміє*, *відчуває*; синтаксичний антропоморфізм, за якого технічні системи постають як агентивні граматичні суб'єкти вольових предикатів; та метафоричне фреймування, через яке стійкі концептуальні відображення на кшталт «*комп'ютер як розум*» організовують цілі дисциплінарні словники. Спираючись на автентичні приклади з наукової літератури у сфері штучного інтелекту, корпоративних комунікацій технологічних компаній та матеріалів масової преси, аналіз демонструє, що антропоморфна мова не є випадковою для цих дискурсів, а відтворюється в них інституційно та комерційно стимулюється.

Дослідження також визначає основні функціональні чинники антропоморфного слововживання: комунікативну економію, концептуальне структурування для неспеціалізованої аудиторії, комерційне переконання та дисциплінарну інерцію. Водночас стверджується, що ці прагматичні переваги несуть із собою суттєві епістемологічні та етичні витрати.

Найголовніше те, що антропоморфне фреймування систематично хибно репрезентує локус агентності в соціотехнічних системах, перекладаючи відповідальність із людей – розробників, операторів і регуляторів штучного інтелекту – на самі системи. Крім того, воно спотворює суспільне сприйняття ризиків у спосіб, що одночасно формує невиправдану довіру та активує культурно вкорінені страхи перед зловмисною машинною агентністю – обидва ефекти перешкоджають поінформованому суспільному обговоренню. У висновках статті обстоюється необхідність розвитку критичної металінгвістичної свідомості як фахової та громадянської компетентності, а корпусні, експериментальні та крос-лінгвістичні дослідження визначаються пріоритетними напрямами подальших наукових пошуків.

**Ключові слова:** антропоморфізм, технічний дискурс, штучний інтелект, когнітивна лінгвістика, критичний аналіз дискурсу, приписування агентності, комунікація у сфері штучного інтелекту.

The pervasive tendency to attribute human characteristics to non-human entities represents one of the most enduring cognitive phenomena in human communication. In contemporary technical discourse, this tendency – broadly termed **anthropomorphism** – has assumed a distinctly new urgency. As artificial intelligence systems, machine learning algorithms, and autonomous technologies become increasingly embedded in everyday professional and social life, the language used to describe them has shifted markedly away from mechanistic terminology towards vocabulary traditionally reserved for conscious, intentional agents. Engineers speak of neural networks that *learn* and *forget*; journalists write of algorithms that *decide*, *predict*, and even *feel*; and corporate communications routinely describe software systems as *intelligent*, *aware*, or *helpful*.

This linguistic phenomenon is far from a matter of mere stylistic preference. The words chosen to frame technological artefacts carry profound epistemic, ethical, and social consequences. When a hiring algorithm is described as *making a decision* rather than *producing an output*, questions of accountability and agency are implicitly redistributed – from the human designers and deployers of the system to the system itself. Similarly, when an AI assistant is characterised as *understanding* a user's request, expectations of reliability, empathy, and moral responsibility are shaped accordingly, often in ways that bear little correspondence to the underlying computational processes.

Despite growing scholarly interest in human-computer interaction, the philosophy of AI, and critical discourse analysis, the systematic study of anthropomorphic language as a structuring force within technical registers remains underdeveloped. Existing research tends to treat anthropomorphism

either as a cognitive bias to be corrected or as a harmless rhetorical convention, rarely examining the mechanisms by which it enters technical communication, the functions it serves for different discourse communities, or the broader normative implications it carries. Addressing this gap is not merely an academic exercise: as regulatory frameworks for AI are constructed globally, the conceptual vocabulary embedded in technical and public discourse will inevitably shape the categories through which these technologies are governed, contested, and understood.

**Analysis of recent research and publications**

The phenomenon of anthropomorphism within technical and computational contexts has garnered significant academic interest, particularly as artificial intelligence (AI) and autonomous systems become more integrated into professional environments. Recent scholarly inquiries have shifted from general psychological observations to more nuanced linguistic and epistemological analyses of how human-centric metaphors shape our understanding of non-biological agents.

In contemporary discourse, the conceptual framing of AI is frequently mediated through anthropomorphic terminology. Salles et al. argue [1] that attributing cognitive states to machines – such as "thinking," "knowing," or "learning" – is not merely a descriptive convenience but a fundamental shift in the neuro-cognitive paradigm of human-computer interaction. They emphasize that while these metaphors facilitate user engagement, they also risk obscuring the functional reality of algorithmic processes.

Furthermore, the philosophical implications of this "linguistic humanisation" are explored by Hermann, who provides a comprehensive survey of how anthropomorphism acts as an interpretative bridge. Hermann's research highlights that our reliance on human-like descriptors for machines is deeply rooted in the need to domesticate complex technical systems, thereby making them more relatable but potentially less transparent [2].

From a communicative perspective, the work of Natale suggests that the historical trajectory of computing has always been intertwined with a "deceitful" narrative that encourages users to project intentionality onto software. This research posits that anthropomorphism is a deliberate structural element of media design rather than an accidental linguistic byproduct [3]. More recently, Abercrombie et al. [4] have scrutinised the risks associated with anthropomorphic mirages in large language models, noting that the "persona" adopted by these systems can lead to over-reliance and a fundamental misunderstanding of the underlying statistical mechanisms.

Despite the extensive literature on the psychological and philosophical impacts of anthropomorphism in general human-computer interaction, several gaps remain within the specific domain of technical and engineering discourse.

1. Professional vs. lay discourse. Most current studies focus on how the general public interacts with AI. There is a palpable lack of research into how seasoned engineers and technical writers use anthropomorphic verbs (e.g., "the server *refuses* the connection" or "the algorithm *decides*") as established professional jargon and whether this affects the precision of technical documentation.

2. Linguistic "lacunae" in translation. There has been insufficient exploration of the "lacunae" or non-equivalent vocabulary that arises when translating anthropomorphic technical metaphors between English and other languages, particularly in the context of professional technical training.

3. Pedagogical implications. While the integration of AI in education is being studied, the specific impact of using "humanised" language to teach complex engineering concepts remains under-researched. There is a need to determine whether such language aids cognitive mapping or creates misconceptions among students in technical universities.

This article aims to address these lacunae by analysing the functional role of anthropomorphism within the professional linguistic framework of engineering, moving beyond the "user experience" to the "discursive reality" of the technician.

**Aim of the study**

This article aims to examine the linguistic and cognitive mechanisms underlying the use of anthropomorphic language in technical discourse, with particular focus on texts describing artificial intelligence systems and computational algorithms. The study seeks to identify the principal contextual domains – including academic publishing, corporate communication, and journalistic reporting – in which such language is most systematically employed, and to analyse the rhetorical functions it performs within each. A further objective is to assess the epistemological and ethical implications of anthropomorphic framing, specifically with regard to how it shapes public and professional understanding of machine agency, accountability, and moral status. Drawing on insights from cognitive linguistics, critical discourse analysis, and the philosophy of technology, the article proposes a descriptive and normative framework for evaluating anthropomorphic usage in technical registers. Ultimately, the study argues that a more precise and critically informed approach to the language of technology is a prerequisite for responsible AI communication, sound governance, and equitable public debate.

**Main body: analysis and discussion**

**1. Cognitive foundations of anthropomorphism in technical language**

Anthropomorphism, in its broadest sense, denotes the attribution of human traits, intentions, emotions, or capacities to non-human entities. As a cognitive strategy, it is deeply rooted in human evolutionary psychology: the tendency to

perceive agency in ambiguous stimuli – sometimes referred to as the *hyperactive agency detection device* – conferred adaptive advantages in ancestral environments where misidentifying a predator as an agent was far less costly than failing to detect one. This cognitive disposition, however, extends well beyond threat perception. Humans routinely attribute mental states, desires, and personalities to animals, weather phenomena, natural forces, and, increasingly, to technological artefacts.

In the context of technical discourse, anthropomorphism operates not merely as an involuntary cognitive reflex but as a deliberate and often institutionalised rhetorical strategy.

The critical distinction, therefore, is not simply between naive and sophisticated users of technology, but between unreflective and deliberate deployment of anthropomorphic language – and it is the latter that most warrants scholarly scrutiny.

A particularly instructive example is the vocabulary associated with machine learning. The very term *learning* is itself irreducibly anthropomorphic: it imports from human developmental psychology a rich set of associations – effort, progress, understanding, and the accumulation of knowledge through experience. When a machine learning engineer writes that *"the model learned to distinguish benign from malignant tissue after exposure to one million labelled images"*, the sentence is grammatically and pragmatically indistinguishable from one describing a medical student's acquisition of diagnostic competence. Yet the underlying processes differ fundamentally: gradient descent optimisation across a parameter space bears no structural resemblance to the neurological and experiential processes by which a human clinician develops expertise. The linguistic equivalence, however, creates a powerful conceptual equivalence in the minds of readers who are not positioned to interrogate it.

**2. Taxonomising anthropomorphic language: a linguistic framework**

For the purposes of rigorous analysis, anthropomorphic expressions in technical discourse may be usefully classified along three intersecting axes:

**2.1 Lexical anthropomorphism**

This category encompasses individual lexical items drawn from the vocabulary of human mental life, embodied experience, or social behaviour and applied to technical systems. The following examples, drawn from widely circulated technical documentation, journalism, and academic papers, illustrate the breadth of this category:

- cognitive/epistemic vocabulary: the algorithm *knows, understands, recognises, believes, assumes, infers, judges, perceives,*
- affective vocabulary: the system *prefers, wants, expects, is confused by, is confident that,*

- volitional vocabulary: the model *decides, chooses, attempts, tries, refuses, seeks,*
- social/communicative vocabulary: the chatbot *explains, argues, persuades, listens, responds, apologises,*
- biological vocabulary: the network *grows, evolves, dies, is trained, forgets, hallucinates.*

Each of these items, when applied to a computational system, imports a set of connotations – intentionality, consciousness, responsibility – that the technical reality does not support.

**2.2 Syntactic anthropomorphism**

Beyond individual lexical choices, anthropomorphism is encoded at the level of syntactic construction. The most significant pattern here is the consistent use of agentive syntax with technical systems as grammatical subjects. Consider the following naturally occurring examples:

*"GPT-4* ***decided*** *to contradict the user's premise rather than accept it." "The recommendation engine* ***noticed*** *a shift in the user's viewing habits." "The autonomous vehicle* ***chose*** *the safer route when faced with an obstacle." "DeepMind's AlphaFold* ***solved*** *a problem that had defeated biologists for fifty years."*

In each case, the syntactic structure – [technical agent] + [agentive verb] + [object/complement] – is identical to that used for human actors performing deliberate actions. The implication of intention, awareness, and volition is not merely suggested but grammatically entrenched.

**2.3 Metaphorical framing**

At the highest level of abstraction, anthropomorphism manifests through sustained conceptual metaphors that organise entire domains of technical discourse.

The MIND AS COMPUTER metaphor – familiar from cognitive science – has been supplemented in popular and even academic discourse by its inverse: COMPUTER AS MIND. Under this metaphorical mapping, a computer system possesses *memory*, *attention*, *reasoning*, and *intelligence*; it can be *trained*, *taught*, *corrected*, and *evaluated* in terms drawn entirely from educational and psychological discourse.

This metaphorical architecture has proven extraordinarily generative. Entire subdisciplines – *machine learning*, *neural networks*, *cognitive computing*, *affective computing* – are named and conceptualised through precisely this mapping.

The very architecture of transformer-based language models is described using the term *attention mechanism*, a term drawn directly from cognitive psychology, where it denotes the selective allocation of conscious awareness.

### 3. Domain analysis: where anthropomorphism operates

#### 3.1 Academic and scientific publishing

One might expect the rigorous conventions of academic writing to militate against anthropomorphic language; in practice, however, technical anthropomorphism is thoroughly institutionalised in scientific discourse. Landmark papers in artificial intelligence routinely employ language that attributes mentalistic properties to computational systems. The original 2017 paper introducing the transformer architecture describes the model as *"attending"* to different parts of an input sequence – a formulation that maps directly onto psychological theories of human attention. Similarly, papers on reinforcement learning describe agents that *"learn"*, *"explore"*, *"exploit"*, and *"are rewarded"* or *"punished"* – vocabulary drawn wholesale from behavioural psychology and educational theory.

In the biomedical literature, AI diagnostic systems are frequently described as *"reading"* medical images, *"identifying"* pathologies, or *"recommending"* treatment courses. A notable example is the consistent description of large language models as *"understanding"* natural language – a formulation that begs precisely the philosophical questions that the field of AI has not resolved. Prominent researchers, including critics of anthropomorphic framing, have nonetheless employed such language in their own publications, suggesting that it functions less as a considered epistemic claim than as a disciplinary convention that has acquired the force of invisible habit.

#### 3.2 Corporate and institutional communication

Corporate discourse surrounding AI products represents perhaps the most systematically anthropomorphic register in contemporary technical communication. Technology companies have strong commercial incentives to present their products in terms that maximise perceived capability, relatability, and trustworthiness, and anthropomorphic language serves all three purposes simultaneously.

Consider the following examples drawn from publicly available product documentation and marketing materials:

*"Alexa **understands** natural language, so you can ask her anything."* (Amazon) *"Our AI **learns** your preferences and **adapts** to your needs over time."* (Spotify) *"Claude is designed to be **helpful**, **harmless**, and **honest**."* (Anthropic) *"Gemini **thinks** through complex problems step by step."* (Google) *"Copilot **understands** your codebase and **suggests** improvements."* (Microsoft)

The use of the feminine pronoun *her* for Alexa is particularly significant: gendering a virtual assistant not only anthropomorphises but specifically feminises it, activating cultural scripts associated with domestic service, compliance, and nurturance. This is not a neutral linguistic choice but one with demonstrable social consequences for gender norms and expectations around service labour.

Furthermore, the vocabulary of *helpfulness*, *honesty*, and *harmlessness* – increasingly standard in AI company communications – imports moral and characterological attributes from human ethics into the description of statistical systems.

A language model cannot, in any philosophically defensible sense, *be* honest or dishonest; it can only produce outputs that, when evaluated against human standards, are judged more or less accurate. The linguistic conflation of these two things – producing accurate outputs and possessing a character trait of honesty – is a significant conceptual sleight of hand with real implications for how users understand, trust, and hold accountable these systems.

**3.3 Journalistic and popular science discourse**

Journalistic coverage of artificial intelligence consistently amplifies anthropomorphic framing, frequently exceeding even the already liberal conventions of academic and corporate discourse. The following headlines, representative of a broader pattern, illustrate the phenomenon:

*"The AI That Taught Itself to Play Chess Better Than Any Human", "Meet the Algorithm That Knows You Better Than You Know Yourself", "Why AI Is Starting to Sound Like It Actually Cares", "The Machine That Dreams: Inside the Mind of a Neural Network".*

Several rhetorical mechanisms are at work here. First, verbs of self-directed cognition (*taught itself*, *knows*, *cares*, *dreams*) are deployed without qualification or scare quotes, presenting anthropomorphic claims as straightforwardly factual. Second, spatial metaphors (*inside the mind of*) locate consciousness within the system, reinforcing the impression of an interior mental life. Third, comparative constructions (*better than any human*) frame AI performance in explicitly humanistic terms, inviting readers to interpret computational benchmarks as measures of a quality – intelligence, understanding, care – whose meaning is defined by human experience.

Perhaps most consequentially, journalistic discourse has played a central role in propagating the concept of AI sentience into mainstream public debate. When Google engineer Blake Lemoine claimed in 2022 that the LaMDA language model was sentient, the episode received extensive media coverage that, irrespective of its editorial stance, normalised the question of machine consciousness as a legitimate and open empirical matter rather than a category confusion – which is how the majority of philosophers of mind would characterise it.

**4. Functional analysis: why anthropomorphism persists**

Given its epistemic shortcomings, the persistence of anthropomorphic language in technical discourse demands functional explanation. Several overlapping motivations may be identified:

**4.1 Communicative economy**

Anthropomorphic vocabulary is cognitively efficient. To say that *"the algorithm predicted the outcome"* is substantially more economical than the technically accurate but cumbersome *"the algorithm produced a numerical output that, when mapped onto the outcome space via a learned decision boundary, corresponded to the observed result."* For communicative purposes – particularly in interdisciplinary or public-facing contexts – anthropomorphic shorthand enables rapid, accessible communication at the cost of epistemic precision. This trade-off is rational in many communicative contexts, which explains why even technically sophisticated authors reach for anthropomorphic language when writing for non-specialist audiences.

**4.2 Conceptual scaffolding**

For both novice and expert users, anthropomorphic framing provides a familiar conceptual scaffold onto which the properties of an unfamiliar system may be mapped. When a student is told that a neural network *"learns from its mistakes"*, the metaphor activates an existing, richly structured mental model – human learning – that provides immediately usable intuitions about the system's behaviour. This pedagogical function is genuinely valuable, provided the metaphor's limitations are explicitly acknowledged.

**4.3 Commercial and rhetorical persuasion**

As discussed above, corporate actors have strong incentives to frame AI systems in terms that maximise perceived social proximity and trustworthiness. Research in human–computer interaction consistently finds that users respond more positively to systems described in anthropomorphic terms: they rate them as more competent, more reliable, and more worthy of trust. This creates a commercial dynamic in which anthropomorphic framing is rewarded by the market, regardless of its epistemic merits.

**4.4 Institutional inertia and disciplinary convention**

Once anthropomorphic terminology becomes established within a disciplinary community – as has occurred with terms such as *learning*, *memory*, *attention*, and *intelligence* in AI research – it acquires the force of convention and is reproduced automatically in new publications, grant applications, and educational materials. Challenging established terminology carries social costs within disciplinary communities, which further entrenches anthropomorphic language even among researchers who are intellectually aware of its limitations.

**5. Epistemological and ethical implications**

**5.1 Misrepresentation of agency and accountability**

The most serious epistemological consequence of anthropomorphic framing is the systematic misrepresentation of where agency, and therefore accountability, resides in sociotechnical systems. When an AI recruitment tool is

described as *"assessing candidates"* or *"making decisions"*, the grammatical subject – the AI – absorbs the attributions of agency that, in a more accurate account, would be distributed across the engineers who designed the system, the organisations that deployed it, and the regulators who permitted its use. This linguistic displacement of agency has direct legal and political consequences: it makes it harder to assign responsibility when systems cause harm, and it generates the misleading impression that human accountability has been legitimately transferred to a machine.

A clear illustration of this dynamic occurred during public hearings and regulatory discussions surrounding algorithmic content moderation on social media platforms. Platform representatives routinely described their systems as *"identifying"* and *"removing"* harmful content – framing that positioned the algorithm as the responsible agent, obscuring the human decisions embedded in the system's design, the training data selected, and the enforcement thresholds set. This anthropomorphic framing was strategically useful for deflecting accountability while simultaneously presenting the platforms as deploying genuinely intelligent, autonomous safeguards.

**5.2 Distortion of public risk perception**

Anthropomorphic language also distorts public perception of technological risk in ways that cut in multiple, sometimes contradictory, directions. On the one hand, attributing human-like intelligence and intentionality to AI systems can lead to *anthropomorphic overestimation* – an exaggerated belief in their capabilities, reliability, and understanding. Users who believe that a medical AI *"understands"* their symptoms may place excessive trust in its outputs, failing to apply the critical scrutiny they would apply to a human clinician's recommendation.

On the other hand, framing AI systems as intentional agents capable of *deciding*, *choosing*, and even *refusing* requests activates culturally embedded fears of malevolent agency – the *rogue AI* narrative familiar from science fiction – that may be equally disconnected from the actual risk profile of the systems in question. The real risks of contemporary AI systems – opacity, bias, brittleness, misuse by human actors – are considerably less dramatic than those suggested by the narrative of a wilful, disobedient machine, but they are correspondingly harder to communicate and regulate.

**5.3 Moral status and ethical obligation**

Finally, anthropomorphic framing raises – and in some cases prematurely forecloses – genuinely important philosophical questions about the moral status of artificial systems. If AI systems are consistently described as *feeling*, *suffering*, *wanting*, or *being distressed*, there arises, at least in principle, a question of whether they have morally relevant interests that impose obligations on their creators and users. Some philosophers and AI researchers have begun to engage

seriously with this question; however, the risk is that anthropomorphic language in mainstream discourse generates moral intuitions about AI welfare that are driven by linguistic framing rather than by substantive philosophical argument.

Conversely, dismissing all anthropomorphic language as mere metaphor – as technically unserious – may prematurely close off legitimate inquiry into the conditions under which artificial systems might acquire morally relevant properties. The epistemically responsible position is neither credulous acceptance of anthropomorphic framing nor its blanket rejection, but rather a systematic critical awareness of the conceptual work such language performs in any given context.

**Conclusions and prospects for further research**

The present study has demonstrated that anthropomorphic language in technical discourse is neither a marginal stylistic phenomenon nor a benign communicative convenience, but a structurally significant force that shapes epistemic, ethical, and political dimensions of how artificial intelligence and computational systems are understood across multiple discourse communities. Across academic publishing, corporate communication, and journalistic writing, anthropomorphic vocabulary – ranging from individual lexical choices to sustained conceptual metaphors – systematically obscures the boundaries between computational processes and human cognition, displaces accountability from human actors onto technical systems, and generates public expectations and fears that frequently bear little correspondence to the actual properties of the technologies in question.

The findings underscore the urgent need for greater critical literacy regarding technological language – not only among general audiences, but among researchers, engineers, policymakers, and communicators whose professional practices reproduce and legitimise anthropomorphic framing. A more disciplined and reflective approach to the vocabulary of AI is not merely a matter of intellectual rigour; it is a prerequisite for sound governance, meaningful regulation, and equitable public deliberation about technologies of profound social consequence.

Several directions merit priority in future research. Corpus-based studies systematically mapping the distribution and evolution of anthropomorphic terminology across large datasets of technical, journalistic, and regulatory texts would provide the empirical foundation that theoretical analysis alone cannot supply. Experimental research examining how specific anthropomorphic framings influence user trust, risk perception, and accountability attribution would yield practically actionable insights for science communicators and policymakers. Additionally, comparative cross-linguistic investigation – exploring whether and how anthropomorphic framing varies across languages with different grammatical

and cultural structures – remains a substantially underexplored area with significant implications for global AI governance discourse.

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