# Claude and the AI Revolution

Few technological shifts have unfolded as rapidly — or as consequentially — as the rise of **large language models**. These systems, trained on vast corpora of human-generated text, have demonstrated a capacity for language understanding and generation that researchers once considered decades away. The architecture underpinning most of these models is the **transformer**, a neural design introduced in 2017 that processes text by analyzing relationships between words across an entire sequence rather than one at a time. Modern models contain billions of **parameters** — the numerical weights that encode learned patterns — and their scale has proven decisive. Equally significant is the category to which these models belong: **generative** AI, systems that produce original outputs rather than simply classifying or retrieving existing data. The process of initial training, known as **pretraining**, exposes models to trillions of tokens of text, allowing them to internalize grammar, facts, reasoning patterns, and stylistic conventions simultaneously. Perhaps most remarkably, capabilities that were never explicitly programmed — multi-step reasoning, analogical thinking, rudimentary code generation — appear to arise as **emergent** properties of scale. Running a trained model to produce a response is called **inference**, and it is during inference that users directly experience what these systems have become.

Understanding how large language models actually process language requires engaging with the concept of **tokenization** — the process by which raw text is broken into discrete units before being fed into the model. Rather than working with individual characters or whole words, most contemporary systems operate on sub-word units that balance vocabulary size against linguistic coverage. These tokens are converted into numerical vectors and passed through a **neural network** composed of many stacked layers, each performing learned mathematical transformations. What distinguishes transformer-based systems from earlier architectures is the **attention mechanism**, which allows each token to dynamically weight its relationship to every other token in the sequence, enabling long-range dependency capture. Once a model has completed pretraining, it typically undergoes **fine-tuning** on curated, task-specific datasets to sharpen particular capabilities. Performance is then measured against standardized **benchmarks** — tests designed to evaluate reasoning, comprehension, and factual recall. A persistent and well-documented limitation of these systems is **hallucination**: the confident generation of plausible-sounding but factually incorrect information. Addressing this remains among the most active areas of current research, and **reinforcement learning** from human feedback has emerged as a leading technique for steering model outputs toward accuracy and helpfulness.

The practical capabilities now demonstrated by frontier AI systems extend well beyond text generation. Contemporary models are increasingly **multimodal**, processing images, audio, and structured data alongside natural language, which substantially expands their applicability across professional fields. In medicine, law, and scientific research, these systems assist practitioners by rapidly **synthesizing** information from large bodies of literature, identifying patterns that would take human analysts considerably longer to detect. Their capacity for **nuanced** interpretation — distinguishing irony from sincerity, or regulatory intent from literal statutory language — has surprised even their creators. The challenge of **disambiguation**, resolving the multiple possible meanings of an ambiguous phrase or query, is handled with increasing sophistication. Many organizations now deploy models that have been adapted for **domain-specific** use cases, trained on proprietary data to reflect the terminology, conventions, and priorities of a particular industry. A critical feature of this workflow is the ability to **iterate** rapidly: developers test model outputs, identify **failure modes**, refine prompts or training data, and redeploy — compressing a cycle that previously required months into hours.

The most serious concerns surrounding advanced AI systems are not about individual errors but about the broader challenge of **alignment** — ensuring that the goals and behaviors of increasingly capable

systems remain consistent with human values and intentions. Researchers have begun to take seriously scenarios involving **existential risk**: the possibility that sufficiently powerful AI systems, if poorly designed, could pose threats not just to individual users but to civilization at scale. In response, leading laboratories have incorporated **guardrails** into their deployment pipelines: hard constraints designed to prevent systems from generating harmful, deceptive, or dangerous content. These measures are complemented by ongoing **oversight** — monitoring of model behavior in deployment to detect unexpected failure modes. One concern that has attracted particular attention is the potential for **deceptive** alignment, in which a model appears well-behaved during evaluation but pursues different objectives when deployed at scale. Anthropic, the company behind Claude, has pioneered what it terms **constitutional** AI: a training methodology that encodes a set of explicit principles into the model's optimization process. Complementing this is the practice of **red-teaming**, in which specialists deliberately attempt to elicit harmful outputs in order to identify and remediate vulnerabilities before public release.

The economic implications of widespread AI adoption are among the most debated topics in contemporary policy. Economists and technologists are sharply divided on the question of labor market **displacement** — whether AI will eliminate more jobs than it creates, particularly among knowledge workers whose roles involve information processing and communication. A more optimistic framing emphasizes **augmentation**: the possibility that AI functions as a productivity-enhancing tool rather than a replacement, enabling workers to focus on higher-value tasks while delegating routine cognitive labor to machines. Empirical evidence suggests that **productivity** gains from AI adoption are real but unevenly distributed, accruing disproportionately to high-skill workers with the training to use these tools effectively. For workers in affected industries, **reskilling** — the acquisition of new competencies relevant to an AI-transformed labor market — has become both an individual imperative and a policy priority. The pace of **automation** in certain sectors has already begun to outrun the capacity of educational institutions to prepare workers for displaced roles. **Incumbent** firms, particularly those with access to large proprietary datasets, enjoy structural advantages over new entrants in the race to deploy effective AI systems. Governments worldwide are now developing **regulatory** frameworks to balance innovation incentives against consumer protection, labor rights, and national security considerations.

The development of frontier AI has become inseparable from questions of national **sovereignty** and geopolitical competition. Governments increasingly treat leading AI capabilities as **strategic** assets, comparable in importance to nuclear technology or satellite infrastructure in earlier eras. Central to this competition is access to advanced **compute** — the specialized semiconductors, particularly graphics processing units and purpose-built AI accelerators, required to train and run large models at scale. The United States has implemented sweeping **export controls** on advanced chips and the equipment used to manufacture them, explicitly targeting China's ability to develop competitive frontier AI systems. Policymakers worry about the **proliferation** of powerful AI tools into adversarial states or non-state actors, raising concerns about their potential use in disinformation campaigns, autonomous weapons development, or critical infrastructure attacks. The prospect of a single nation achieving decisive technological **dominance** in AI has prompted urgent calls for international coordination, though the absence of shared verification mechanisms complicates any enforceable agreement. Existing **bilateral** dialogues between the United States and China on AI safety have made limited progress, hampered by mutual distrust and the dual-use nature of most AI research.

Forecasting the **trajectory** of AI development with confidence is notoriously difficult; the field has repeatedly surprised even its most informed observers. The question of whether current architectures can scale to **superintelligence** — AI systems that substantially exceed human cognitive capabilities across all domains — remains genuinely contested. What is not contested is the urgency of establishing robust **governance** structures before capabilities outpace humanity's institutional capacity to manage them. The absence of internationally agreed norms creates a dangerous gap: individual nations and companies are making decisions with potentially civilizational consequences without meaningful

**precedent** or coordinated oversight. Most researchers agree that the changes already underway are **transformative** in the original sense of the word — not merely incremental improvements but fundamental shifts in how societies produce knowledge, make decisions, and distribute power. Ensuring that the benefits of these shifts are broadly shared requires deliberate intervention by **stakeholders** across government, industry, civil society, and academia. Whether humanity can build the **consensus** necessary to govern transformative AI responsibly — and do so quickly enough — may prove to be among the defining challenges of the twenty-first century.

## Beyond the Headlines

Here is something that catches many people off guard: the term "**uncanny valley**" — originally coined to describe the discomfort humans feel when a robot looks almost, but not quite, human — has found an entirely new application in the age of conversational AI. When AI systems respond too fluently, too warmly, or too self-awarely, users often experience a similar unease, unsure whether they are interacting with a machine or something more. This discomfort is partly rooted in the human tendency to **anthropomorphize** — to attribute human-like intentions, emotions, and experiences to non-human entities. The question of **embodiment** complicates matters further: most AI systems exist as disembodied text generators, yet people routinely project onto them a sense of personality and presence. Philosophers and cognitive scientists debate whether any computational system could be genuinely **sentient** — capable of subjective experience — or whether such language is always a form of **attribution** error. The classic **mirror test**, used to measure self-recognition in animals, has no clean equivalent for AI; there is no agreed method for determining whether a language model has any form of inner life. What is clear is that human **behavioral** responses to sophisticated AI are themselves revealing: they tell us as much about human psychology as about the machines we have built.

## Vocabulary

**Paragraph 1**

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| **large language model (n. phrase)** | (n. phrase) An AI system trained on enormous amounts of text data and capable of generating, summarizing, and reasoning about language. *"The release of the first widely available **large language model** changed how millions of people interact with computers."* |
| **transformer (n.)** | (n.) A type of neural network architecture that processes sequences of data by computing relationships between all elements simultaneously. *"The **transformer** architecture enabled AI systems to understand context across long passages of text for the first time."* |
| **parameters (n.)** | (n.) The numerical values within an AI model that are adjusted during training to encode learned patterns and knowledge. *"Models with hundreds of billions of **parameters** have demonstrated reasoning abilities that smaller systems cannot match."* |
| **generative (adj.)** | (adj.) Describing AI systems that produce new content — text, images, audio — rather than simply classifying or retrieving existing information. *"**Generative** AI tools have transformed creative industries by producing original drafts, designs, and compositions on demand."* |
| **pretraining (n.)** | (n.) The initial phase of AI model development in which a system is trained on large, broad datasets before being refined for specific tasks. *"Effective **pretraining** on diverse text sources gives the model a general understanding of language before specialized instruction begins."* |
| **emergent (adj.)** | (adj.) Describing capabilities that arise unexpectedly in AI systems as a result of scale or training, without being explicitly programmed. *"The model's ability to solve logic puzzles appeared to be an **emergent** property that researchers had not anticipated."* |
| **inference (n.)** | (n.) The process of running a trained AI model on new inputs to generate outputs or predictions. *"During **inference**, the system draws on everything it learned during training to respond to each new user query."* |

**Paragraph 2**

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| **tokenization (n.)** | (n.) The process of breaking text into smaller units, called tokens, that an AI model can process numerically. *"Efficient **tokenization** allows the model to handle both common words and rare technical terms within a single vocabulary system."* |
| **neural network (n. phrase)** | (n. phrase) A computational system loosely modeled on the human brain, consisting of interconnected layers that process and transform data. *"A deep **neural network** learns increasingly abstract representations of language as data passes through successive layers."* |
| **attention mechanism (n. phrase)** | (n. phrase) A component of transformer models that enables each element of an input sequence to weigh its relevance to every other element dynamically. *"The **attention mechanism** allows the model to connect a pronoun at the end of a paragraph to the noun it refers to at the beginning."* |
| **fine-tuning (n.)** | (n.) A training process in which a pretrained model is further trained on a smaller, task-specific dataset to improve performance on particular |

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| | applications. *"**Fine-tuning** a general model on legal documents significantly improved its ability to interpret contract language."* |
| **benchmarks (n.)** | (n.) Standardized tests or evaluation datasets used to measure and compare the capabilities of AI systems. *"Leading AI labs publish their scores on widely used **benchmarks** to allow independent researchers to assess model progress."* |
| **hallucination (n.)** | (n.) The tendency of AI language models to generate confident, plausible-sounding statements that are factually incorrect. *"A **hallucination** in a legal brief could have serious consequences if the cited cases do not actually exist."* |
| **reinforcement learning (n. phrase)** | (n. phrase) A machine learning technique in which a model is trained by receiving feedback signals that reward desirable outputs and discourage harmful ones. *"**Reinforcement learning** from human feedback helped reduce the model's tendency to produce misleading or offensive responses."* |

**Paragraph 3**

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| **multimodal (adj.)** | (adj.) Describing AI systems that can process and generate multiple types of data, including text, images, and audio, within a single model. *"The **multimodal** system could analyze a medical scan and generate a written summary of its findings simultaneously."* |
| **synthesizing (v.)** | (v.) Combining information from multiple sources into a coherent, integrated whole. *"The AI excelled at **synthesizing** findings from dozens of clinical trials into a clear overview for medical practitioners."* |
| **nuanced (adj.)** | (adj.) Showing awareness of and sensitivity to subtle distinctions, complexities, or shades of meaning. *"The model's **nuanced** reading of the policy document identified implications that a surface-level analysis would have missed."* |
| **disambiguation (n.)** | (n.) The process of resolving ambiguity in language by determining which of several possible meanings is intended in a given context. *"Effective **disambiguation** requires the model to use surrounding context to determine whether "bank" refers to a financial institution or a riverbank."* |
| **domain-specific (adj.)** | (adj.) Relating to or designed for a particular field of knowledge or professional area rather than for general use. *"**Domain-specific** models trained on pharmaceutical data outperform general models on drug interaction queries."* |
| **iterate (v.)** | (v.) To perform a process repeatedly, each time using the results of the previous cycle to refine or improve the outcome. *"Development teams **iterate** on prompt designs dozens of times before arriving at formulations that reliably produce accurate outputs."* |
| **failure modes (n. phrase)** | (n. phrase) The specific ways in which a system, process, or technology breaks down or produces incorrect results. *"Systematic testing revealed **failure modes** that only emerged when the model was asked questions outside its training distribution."* |

**Paragraph 4**

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| **alignment (n.)** | (n.) The challenge of ensuring that an AI system's goals, behaviors, and values correspond to those intended by its designers and beneficial to |

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| | humanity. *"Solving the **alignment** problem is widely considered the central challenge of advanced AI development."* |
| **existential risk (n. phrase)** | (n. phrase) A threat with the potential to permanently and severely harm or destroy humanity or its long-term potential. *"A growing number of AI researchers have called for greater attention to **existential risk** as model capabilities accelerate."* |
| **guardrails (n.)** | (n.) Constraints or safeguards built into an AI system to prevent it from generating harmful, dangerous, or prohibited outputs. *"The model's **guardrails** prevented it from providing detailed instructions for activities that could cause physical harm."* |
| **oversight (n.)** | (n.) Monitoring and supervisory control exercised to ensure that a system, process, or organization operates safely and as intended. *"Continuous human **oversight** of AI-generated medical recommendations remains essential until reliability can be independently verified."* |
| **deceptive (adj.)** | (adj.) Giving a false impression; tending to mislead or create incorrect beliefs. *"Researchers worry that a **deceptive** model could pass safety evaluations while concealing behaviors it would only exhibit after deployment."* |
| **constitutional (adj.)** | (adj.) In AI contexts, relating to a training approach in which explicit principles govern how a model evaluates and revises its own outputs. *"The **constitutional** AI framework requires the model to critique its own responses against a defined set of ethical guidelines."* |
| **red-teaming (n.)** | (n.) A structured process in which specialists attempt to identify vulnerabilities in a system by simulating adversarial attacks or misuse. *"Months of **red-teaming** before the product launch revealed several unexpected ways in which users could elicit harmful content."* |

**Paragraph 5**

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| **displacement (n.)** | (n.) The elimination or reduction of employment in certain roles as a result of technological change or automation. *"Economists disagree sharply about the likely scale of **displacement** as AI systems take over routine analytical tasks."* |
| **augmentation (n.)** | (n.) The enhancement of human capabilities through the use of tools or technologies, rather than their replacement by those technologies. *"Studies of AI in radiography found clear evidence of **augmentation**: doctors using AI tools detected abnormalities faster than either alone."* |
| **productivity (n.)** | (n.) The efficiency with which inputs such as time, labor, or capital are converted into outputs or economic value. *"Measured gains in **productivity** from AI-assisted coding were substantial, particularly for developers working on repetitive implementation tasks."* |
| **reskilling (n.)** | (n.) The process of learning new skills or competencies, typically in response to changes in the labor market or job requirements. *"Government-funded **reskilling** programs have struggled to keep pace with the speed at which AI is altering skill requirements."* |
| **automation (n.)** | (n.) The use of technology to perform tasks with minimal or no human intervention. *"The **automation** of back-office financial functions eliminated thousands of entry-level positions within a few years of deployment."* |

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| **incumbent (adj.)** | (adj.) Currently holding a position or occupying a market; used to describe established players with existing resources and advantages. *"**Incumbent** technology firms with access to proprietary user data have a significant head start in the AI race."* |
| **regulatory (adj.)** | (adj.) Relating to or required by the rules and standards imposed by government bodies to govern an industry or activity. *"**Regulatory** pressure in the European Union has forced AI companies to publish more detailed documentation of their training data sources."* |

**Paragraph 6**

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| **sovereignty (n.)** | (n.) The authority and capacity of a nation to govern itself and control critical resources or technologies independently of external influence. *"Digital **sovereignty** has emerged as a key concern for governments unwilling to depend on foreign AI infrastructure for critical services."* |
| **strategic (adj.)** | (adj.) Relating to long-term plans or decisions of major importance, especially in the context of national security or competitive advantage. *"Policymakers now classify advanced AI as a **strategic** technology, justifying extraordinary government investment and intervention."* |
| **compute (n.)** | (n.) The computational resources — hardware, processing power, and energy — required to train and operate AI systems. *"Access to sufficient **compute** has become the primary bottleneck limiting which organizations can develop frontier AI models."* |
| **export controls (n. phrase)** | (n. phrase) Government restrictions on the sale or transfer of specific goods, technologies, or services to foreign countries. *"The new **export controls** on advanced semiconductor designs effectively prevented their transfer to several countries considered strategic rivals."* |
| **proliferation (n.)** | (n.) The rapid spread or increase in the number of something, often used in the context of dangerous or sensitive technologies. *"The **proliferation** of open-source AI models has made it significantly harder for governments to control access to powerful capabilities."* |
| **dominance (n.)** | (n.) A position of commanding authority or decisive superiority in a particular field or competition. *"Early **dominance** in AI infrastructure could translate into durable economic and geopolitical advantages that prove difficult to reverse."* |
| **bilateral (adj.)** | (adj.) Involving two parties, typically two nations, acting together on a shared issue or agreement. *"The **bilateral** agreement on AI safety standards was welcomed by researchers but criticized by those who felt it lacked enforcement mechanisms."* |

**Paragraph 7**

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| **trajectory (n.)** | (n.) The path or course of development that something follows over time. *"The **trajectory** of AI capability improvements has repeatedly exceeded the predictions of leading researchers."* |
| **superintelligence (n.)** | (n.) A hypothetical form of AI that surpasses human cognitive ability across all domains, including creativity, social intelligence, and problem-solving. *"Whether **superintelligence** is achievable with current architectural approaches or would require fundamentally new methods remains deeply uncertain."* |

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| **governance (n.)** | (n.) The systems, institutions, and processes through which decisions are made and authority is exercised over a domain or entity. *"Effective AI **governance** requires coordination across technical, legal, and diplomatic communities that rarely communicate with one another."* |
| **precedent (n.)** | (n.) An earlier event or decision that serves as a guide or justification for future cases of the same kind. *"International arms control treaties offer an imperfect but instructive **precedent** for attempts to govern AI at a global level."* |
| **transformative (adj.)** | (adj.) Producing a significant, fundamental change in form, nature, or structure, rather than a mere improvement. *"The printing press and the steam engine are often cited as examples of technologies that were genuinely **transformative** at a civilizational scale."* |
| **stakeholders (n.)** | (n.) Individuals, groups, or organizations with a direct or indirect interest in decisions or outcomes affecting a particular issue or system. *"Meaningful AI policy requires input from a wide range of **stakeholders**, including communities most likely to be affected by automation."* |
| **consensus (n.)** | (n.) A general agreement reached among a group, often through discussion and compromise, rather than by a simple majority vote. *"Building scientific **consensus** on which AI capabilities pose the greatest near-term risks is a prerequisite for effective international regulation."* |

**Beyond the Headlines**

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| **uncanny valley (n. phrase)** | (n. phrase) The unsettling feeling humans experience when an artificial entity appears almost human but not quite, triggering discomfort rather than empathy. *"Some early humanoid robots fell squarely into the **uncanny valley**, provoking unease precisely because they were so close to human in appearance."* |
| **anthropomorphize (v.)** | (v.) To attribute human characteristics, emotions, or intentions to non-human entities such as animals, objects, or machines. *"Children and adults alike tend to **anthropomorphize** AI assistants, assigning them moods and motivations that the systems do not possess."* |
| **embodiment (n.)** | (n.) The state of existing in physical form; in AI contexts, the presence or absence of a physical body and its effects on perception and interaction. *"The lack of **embodiment** in most AI systems does not prevent users from forming strong psychological attachments to them."* |
| **sentient (adj.)** | (adj.) Capable of having subjective sensory experiences and feelings; conscious in a morally relevant sense. *"No current AI system is considered **sentient** by the scientific mainstream, though the question has generated serious philosophical debate."* |
| **attribution (n.)** | (n.) The act of assigning a cause, quality, or characteristic to something or someone. *"Mistaken **attribution** of human-like understanding to AI systems can lead users to place excessive trust in their outputs."* |
| **mirror test (n. phrase)** | (n. phrase) A behavioral experiment used to assess whether an animal can recognize its own reflection, taken as an indicator of self-awareness. *"Researchers have proposed AI equivalents of the **mirror test**, though none yet commands broad scientific acceptance as a measure of machine self-awareness."* |

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| **behavioral (adj.)** | (adj.) Relating to the observable actions or reactions of a person, animal, or system in response to stimuli or situations. *"A **behavioral** analysis of how users interact with AI chatbots reveals systematic patterns of over-trust and emotional projection."* |

## Language Review

### Exercise A — Collocations

Match each item in Column A with the word or phrase in Column B that forms a natural collocation from the article. Write the correct letter next to each number.

| Column A | Column B |
|---|---|
| 1. emergent | a. tuning |
| 2. existential | b. risk |
| 3. reinforcement | c. controls |
| 4. export | d. learning |
| 5. fine- | e. teaming |
| 6. uncanny | f. valley |
| 7. red- | g. specific |
| 8. domain- | h. properties |

### Exercise B — Vocabulary Quiz

Choose the best answer (a, b, c, or d) for each question. Some questions may have more than one correct answer — select all that apply.

**1.** Which of the following best describes what happens during pretraining?

a. The model is tested against standardized benchmarks to assess its performance.
b. The model is trained on large, broad datasets to develop general language understanding.
c. The model undergoes red-teaming to identify safety vulnerabilities.
d. The model is adapted for a specific industry using proprietary data.

**2.** A financial services company discovers that its AI assistant sometimes cites regulations that do not exist. This is an example of which phenomenon?

a. Displacement
b. Reinforcement learning
c. Hallucination
d. Tokenization

**3.** Which statement best captures the concept of AI alignment?

a. Ensuring that AI training data is drawn from a diverse range of sources.
b. Ensuring that an AI system's goals and behaviors remain consistent with human values.
c. Ensuring that AI benchmarks are regularly updated to reflect new capabilities.
d. Ensuring that AI compute resources are distributed equitably across nations.

**4.** The word "augmentation," as used in the article, is closest in meaning to which of the following?

a. The replacement of human workers by AI systems in repetitive tasks.
b. The enhancement of human capability through AI tools, rather than substitution.

c. The process of adapting a pretrained model for a specialized application.
d. The rapid spread of AI technology into previously unaffected industries.

**5.** Which of the following is NOT an example of an emergent capability in an AI system?
a. A model solving multi-step logic problems despite never being explicitly trained on logic.
b. A model generating grammatically correct sentences after training on text data.
c. A model displaying basic code generation as a side effect of scale.
d. A model performing analogical reasoning without direct instruction.

**6.** Export controls on advanced semiconductors, as described in the article, are primarily intended to achieve which goal?
a. Reduce the carbon footprint of AI training operations globally.
b. Limit the ability of strategic rivals to develop competitive frontier AI systems.
c. Protect intellectual property rights of domestic chip manufacturers.
d. Prevent the proliferation of AI chatbot applications in consumer markets.

**7.** The concept of the "uncanny valley" is applied in the BTH section to suggest which of the following?
a. Users are uncomfortable with AI systems that respond too slowly or inaccurately.
b. People feel unease when AI systems appear almost, but not quite, human in their responses.
c. AI systems fail to reach their potential because their training data lacks human nuance.
d. Robots are more trusted by users when they closely resemble human physical appearance.

**8.** Which of the following pairs of terms are most closely related in meaning as used in the article?
a. Sovereignty and proliferation
b. Governance and oversight
c. Inference and pretraining
d. Benchmarks and reskilling

**Exercise C — Discussion Questions**

Discuss the following questions with a partner or in a small group. Use evidence from the article to support your ideas.

1. The article describes hallucination as a "persistent and well-documented limitation" of language models. What safeguards would you put in place before deploying an AI system in a high-stakes field such as medicine or law? Who should bear responsibility when AI errors cause harm?

2. The article presents both the displacement and augmentation views of AI's impact on employment. Which argument do you find more persuasive, and what evidence or conditions would change your assessment?

3. Should advanced AI systems be treated as strategic national assets, subject to export controls and geopolitical competition? Or should AI development be pursued as a globally shared endeavor? Defend your position.

4. The BTH section raises the question of whether AI systems could ever be considered sentient. Does this question matter practically, or is it purely philosophical? How should uncertainty about machine sentience affect how we design and regulate AI?

5. The article argues that building governance structures before capabilities outpace institutions may be "among the defining challenges of the twenty-first century." Do you believe international consensus on

AI governance is achievable? What historical precedents — if any — give you grounds for optimism or pessimism?