

Artificial Intelligence Versus Actual Intelligence

Greg Whateley and Tom O'Connor

September 2025



Artificial Intelligence (AI) and actual intelligence (Aci) - commonly understood as human intelligence - are two forms of cognition that occupy the forefront of technological and philosophical discourse today. As AI continues to evolve at an unprecedented rate, questions abound regarding its capabilities, limitations, and relationship to the nuanced, complex intelligence exhibited by humans.

What is Artificial Intelligence (AI)?

Artificial Intelligence (AI) refers to the simulation of human-like intelligence by machines, particularly computer systems. It encompasses a broad range of technologies and methodologies designed to enable machines to perform tasks that would typically require human cognition—such as learning, reasoning, problem-solving, perception, language understanding, and even *creativity*. AI can be broadly categorized into two main types - *Narrow AI* (Weak AI) and *General AI* (Strong AI).

What is Actual Intelligence (Acl)?

Actual intelligence (Acl) - often referred to as natural intelligence - is the capacity for thought, learning, understanding, and decision-making exhibited by biological entities—most notably humans. Human intelligence is a product of evolution - shaped by millions of years of adaptation - and is deeply intertwined with consciousness, emotional states, sensory experiences, and physical embodiment. Characteristics that distinguish actual intelligence include - self-awareness and consciousness; emotional depth; contextual understanding and adaptability; embodied cognition (the integration of mind and body); and continuous learning throughout life.

Similarities

Despite their vastly different origins, AI and actual intelligence (Acl) share certain functional similarities including - problem solving; learning; pattern recognition; and adaptation. However, these similarities often mask profound differences in how these functions are executed and understood.

Differences

There are five significant of differences between AI and Acl -

Consciousness and Self-Awareness

Actual intelligence (Acl) is inextricably linked to consciousness that is humans are aware of themselves, their thoughts, and emotions. AI lacks any form of genuine consciousness or subjective experience - it processes data without self-awareness.

Emotional Intelligence

Human intelligence (Acl) is inherently emotional. Emotions shape our decisions, influence creativity, and colour our perceptions. AI can mimic emotional responses or detect emotions in human language and behaviour - but these are algorithmic interpretations not true felt experiences.

Learning and Generalization

AI's learning is typically bounded by its programming and the data it receives. While machine learning algorithms can generalize within a domain, they struggle with transfer learning – that is applying knowledge from one context to another unrelated context. Humans (Acl) excel at transferring knowledge and improvising in novel situations.

Contextual Understanding

Actual intelligence (AI) is highly contextual. Humans intuitively grasp subtle cues, cultural norms, and implicit meanings. AI usually struggles with ambiguity, sarcasm, and context-dependent reasoning.

and

Creativity and Innovation

While AI can generate novel content including art, music, or literature - its creativity is fundamentally different from human creativity. AI draws from patterns in existing data, while human innovation often arises from intuition, serendipity, and emotional resonance.

Opportunity for AI and Acl to collaborate effectively

Rather than viewing artificial (AI) and actual intelligence (Acl) as rivals/competitors, a growing perspective is to see them as complementary forces – working together. The most promising outcomes arise from the synergy of AI augmenting human (Acl) capabilities; automating routine tasks; and amplifying creativity; AND humans (Acl) providing the ethical framework, context, and emotional intelligence that AI lacks. Successful integration depends on thoughtful design, robust safeguards, and a clear-eyed understanding of both the power and limitations of AI.

The ongoing dialogue between artificial intelligence (AI) and actual intelligence (Acl) invites us to reflect not only on the capabilities of our machines but also on the nature of our own minds. As AI becomes ever more advanced, it challenges us to reconsider what it means to be intelligent, creative, and human. Ultimately, the goal is not to replace one with the other, but to harness the best of both.

Also worth reading –

AI vs Acl (2025) - [AI vs ACl](#)

Emeritus Professor Greg Whateley is currently Chief Executive and Executive Dean at the Australian Guild of Education (Melbourne)

Associate Professor Tom O'Connor is currently Academic Director at the Australian Guild of Education (Melbourne)