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How Artificial is Human Intelligence -- and Humanity?

Consideration of AI Safety versus Safety from Human Artifice

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Introduction

Much is now made of the potential dangers of [artificial intelligence](#) and the urgent need for its regulation (Yoshua Bengio, et al, , *"Large-scale Risks from Upcoming, Powerful AI Systems": managing AI risks in an era of rapid progress*, *Global Research*, 25 October 2023). Media have focused on the recent assertion by Henry Kissinger in the light of his involvement in the World Economic Forum (*AI Will Replace Humans within 5 Years*, *Slay*, 28 October 2023). The more dramatic argument is presented by [Geoffrey Hinton](#) (John Davidson, *Godfather of AI stands by extinction warning*, *Financial Review*, 1 November 2023).

Such are purported to be the dangerous consequences for the world that the UK government has urgently hosted an [AI Safety Summit](#) of leaders in the field at the iconic location of computer innovation in response to the threat of World War II (*BBC*, 28 October 2023). The Summit gave rise to the so-called [Bletchley Declaration](#), reinforced by a statement by the UN Secretary-General (*Statement at the UK AI Safety Summit*, United Nations, 2 November 2023). It is unclear whether any form of AI was used there to enhance the quality of discourse typical of such events (*Use of ChatGPT to Clarify Possibility of Dialogue of Higher Quality*, 2023).

Failure to enhance the quality of interaction at such events raises the question as to whether they could be appropriately caricatured as "large language models" of an outmoded kind -- and dangerous as such -- with their own variant of the "hallucination" deprecated as a characteristic of AIs.

At the same time, the world is confronted by the unrestrained response by Israel to the attack from Gaza, and the many human casualties which are expected to result. However it is perceived, this is clearly the consequence of the application of human intelligence. In the case of the Israelis, their relative intelligence is widely recognized, if not a matter of ethnic pride (Nelly Lalany, *Ashkenazi Jews rank smartest in world: studies show descendants of Jews from Medieval Germany, throughout Europe have IQ 20% higher than global average*, *Ynet News*, 23 July 2011; Bret Stephens, *The Secrets of Jewish Genius*, *The New York Times*, 27 December 2019; Sander L. Gilman, *Are Jews Smarter Than Everyone Else?* *Mens Sana Monographs*, 6, 2008, 1; Kiryn Haslinger, *A Jewish Gene for Intelligence?* *Scientific*

American, 1 October 2005).

The concern in what follows is how to distinguish, if that is possible, between the much publicized dangers of AI and those deriving from "human artifice". The nature of human artifice, and its dangerous consequences, has become confused by the focus on artificial intelligence. It is however clear that many global crises are the consequences of human artifice -- in the absence of any use of AI.

The [Anthropocene Era](#) might well be explored in such terms. AI as a safety concern is a latecomer to the scene -- itself a consequence of human artifice. The currently acclaimed urgency of the crisis posed by AI can even be seen as displacing the urgency previously accorded to climate change. The apparent shift of urgency to a strategic focus on the dangers of AI could even be seen as a convenience -- in the absence of viable responses to climate change.

Given the current multiplicity of global crises -- a [polycrisis](#) -- the seemingly absurd consequences of human artifice merit particular concern by comparison with those potentially to be engendered by artificial intelligence. The nature of intelligence has however long been a matter of debate, especially in the light of the search for extraterrestrial intelligence. Having engendered so many crises, it might even be provocatively asked whether "human intelligence", as acclaimed, will be appreciated as such by the future ([Quest for Intelligent Life on Earth -- from a Future Perspective](#), 2023). However it might also be asked -- speculatively -- whether humanity is endowed with some form of "indwelling" intelligence, relevant to crisis response, elusive though it may be ([Implication of Indwelling Intelligence in Global Confidence-building](#), 2012).

The particular concern in what follows is whether what is appreciated as **"human intelligence" has progressively acquired characteristics which might be deprecated as "artificial"**. How artificial has "humanity" become? What indeed is the distinction between "artificial" and "artifice"? **How artificial is one's intelligence as a human being?**

How is the distinction to be made between the "artificiality" of an agent of an organization representing humanity (or an expert representing a domain of expertise) and the "humanity" of that agent or discipline? Most obviously the question applies to those gathered at the AI Safety Summit, or to those charged with regulating AI in the future.

Some such progressive artificiality is to be expected as a form of human adaptation to an increasingly artificial environment and the skills required to survive within it. The adaptation to AI might well be understood in terms of the acquisition of features which are characteristic of AI -- and of its dangers to humanity. Dangers held to be associated with the technology of "artificial intelligence" then merit exploration as deriving from the unacknowledged projection of the artificiality increasingly associated with human intelligence.

This projection could be seen as an instance of [misplaced concreteness](#) -- the fallacy of reification. The dangers perceived in the technology are then to be understood as driven -- to some degree -- by questionable patterns of thinking. Ironically this understanding might be supported by insights into cognitive development from disciplines upholding perspectives which are the antithesis of those driving the development of AI technology. It is in this sense that the surprisingly extensive literature on AI from a variety of religious perspectives merits attention -- especially in the light of the challenge to ethics and morality now highlighted with respect to AI development.

The following exploration includes presentation of the challenge to [ChatGPT](#) as exemplifying an "interested party". That exchange helps to clarify the distinction which would seem to be of value at this time.

Dangerous development of AI?

Safety of AI? As implied above, it is appropriate to ask how "artificial" was the collective intelligence evident at the AI Safety Summit -- and how this might be best understood in the light of warnings immediately before the event ([Sunak's global AI safety summit risks achieving very little, warns tech boss](#), *The Guardian*, 20 October 2023; Editorial: [Why the UK-led global AI summit is missing the point](#) (*Nature*, 31 October 2023)).

Following the questionable pattern of many international declarations of the past, attention will necessarily focus on the [Bletchley Declaration](#) signed at the AI Safety Summit:

- Alex McFarland: [What is the Bletchley Declaration Signed by 28 Countries?](#) (Unite.ai, 3 November 2023)
- Chris Stokel-Walker: [UK AI summit: Countries agree declaration on frontier AI risks](#) (*New Scientist*, 1 November 2023; [UK AI summit: US-led AI pledge threatens to overshadow Bletchley Park](#), *New Scientist*, 2 November 2023)
- Matthew Sparkes: [UK AI summit is a 'photo opportunity' not an open debate, critics say](#) (*New Scientist*, 1 November 2023)
- Dan Milmo: [Five takeaways from UK's AI safety summit at Bletchley Park](#) (*The Guardian*, 2 November 2023)
- Kiran Stacey: ['It's not clear we can control it': what they said at the Bletchley Park AI summit](#) (*The Guardian*, 12 November 2023).

As noted by Matthew Sparkes:

The reality is that technology – just as it has always done – is outpacing legislation. And if the world's law-makers at least got up to speed on the latest developments in AI at Bletchley Park this week, it is hard to imagine they won't need a refresher course by the time they meet again, with the face of AI having transformed once more. While summits might offer photo opportunities and the chance for politicians to rub shoulders with the likes of Elon Musk, no amount of gatherings can solve the problem of innovation outpacing legislation. ([What did the UK's AI Safety Summit actually achieve?](#) (*New Scientist*, 2 November 2023))

Sparkes concludes with the provocative speculation: *Perhaps this meeting could have been a ChatGPT-generated email, and saved the carbon expenditure of jetting everyone in.*

Relevance to global governance? Prior to the Bletchley summit, the UN Secretary-General announced the creation of a new [High-level Advisory Body on Artificial Intelligence](#), with the following focus:

- The Global AI Imperative: Globally coordinated AI governance is the only way to harness AI for humanity, while addressing its risks and uncertainties, as AI-related applications, algorithms, computing capacity and expertise become more widespread internationally.
- The UN's Response: To foster a globally inclusive approach, the UN Secretary-General is convening a multi-stakeholder High-level Advisory Body on AI to undertake analysis and advance recommendations for the international governance of AI.
- Calling for Interdisciplinary Expertise: Bringing together up to 38 experts in relevant disciplines from around the world, the Body will offer diverse perspectives and options on how AI can be governed for the common good, aligning internationally interoperable governance with human rights and the Sustainable Development Goals.

Curiously the comments prior to the declaration (and thereafter) tend to be vague in nature, especially with regard to both the risks and opportunities of AI. Emphasis is on the "tremendous" opportunities and the enthusiasm of techno-optimists, matched by the suggestions of the dangers to humanity by some -- readily to be recognized as fear-mongering typical of other crises.

Curiously missing is any emphasis on how AI might indeed enhance global governance, including the management of those risks and opportunities -- in the light of past inadequacies in response to crises, despite access to the highest relevant expertise. Specifically, it might be asked why no use was apparently made of AI to enhance the AI Safety Summit and the formulation of the Bletchley Declaration. Somewhat ironically, there is no indication of how AI will contribute to the working of the UN High-level Advisory Body on Artificial Intelligence -- or undermine it as a feature of the risks so strongly anticipated.

How might AI enhance interactions at the UN [Summit of the Future](#) planned for 2024 -- in the light of the UN Secretary-General's vision for the future of global cooperation in the form of a report titled *Our Common Agenda* (2021)?

Challenges for the UN system? It is appropriate to note that the UN system has been endowed with an [International Computing Centre](#) (UNICC) since 1971. It was created as an inter-organization facility to provide electronic data processing services. It was established by a [Memorandum of Agreement](#) among the United Nations (UN), the United Nations Development Programme (UNDP) and the World Health Organization (WHO), pursuant to resolution 2741 (XXV) of the United Nations General Assembly.

There has been relatively little trace of the involvement of the UNICC in AI, despite its participation in the [AI for Good Global Summit](#) series organized by the ITU:

- *Artificial Intelligence for Social Good* (UNICC, 13 August, 2018)
- *AI for Health – UNICC's Digital Trust Presentation at ITU* (UNICC, 11 February 2019)
- *Accelerating Sustainable Development with Hyperautomation* (UNICC, 18 December, 2020)
- *A Strengthened Threat Intelligence Posture for the UN Family* (UNICC, 14 December, 2020)

Of potential relevance is the lack of recognition of the long-standing challenge to the relationship among UN agencies, and with variously associated bodies, as documented at the time of the creation of UNICC at the International Symposium on the Documentation of the United Nations (*Acquisition and Organization of International Documentation*, 1972). The introductory report to the Second World Symposium on International Documentation (1980) was republished under the title *Societal Learning and the Erosion of Collective Memory* (1980). It is appropriate to ask whether such challenges -- typical of problematic inter-agency dynamics at all levels of governance -- will be effectively addressed through the UN's new advisory body, whether or not it is assisted by AI.

"Dark AI" and globally organized crime? Missing from the current enthusiasm for institutional safeguards and regulation is any recognition of how AI may be exploited by constituencies skilled in the evasion of regulatory nets -- most obviously organized crime. This naivety is evident in the light of the development of the [Dark Web](#), thereby suggesting the emergence of a "Dark AI":

- Margarita Del Val: *Dark AI tools: How profitable are they in the underground ecosystem?* (*Outpost24*, 15 August 2023)
- Tim Keary: *The Future of Dark AI Tools: What to Expect Next?* (*Techopedia*, 1 September 2023)
- Mark Minevich: *How To Combat The Dark Side Of AI* (*Forbes*, 28 February 2020)
- Daniel Iwugo: *What is Dark AI?* (*Cybersecurity Education Initiative*)

Such possibilities are only evident in the summit preoccupation with cybersecurity -- ironically matched by massive investment in cyberwarfare technology by those preoccupied with AI safety.

Given the role of intelligence in the "Great Game" of the 19th century, there is a case for a speculative reformulation in which the new variant is to be recognized as the "game" of humanity with AI, rather than as previously framed (*Playing the Great Game with Intelligence: Authority versus the People*, 2013).

Artificiality of human intelligence?

Arguably it is too readily assumed that "human intelligence" is the antithesis of "artificial intelligence". In the spirit of contrarian analysis, there is a case for questioning this assumption (*Contrarian Analysis as a Means of Avoiding Intelligence Failure*, 2023).

Question to ChatGPT: Could you comment on the significance of a question to humans: *how artificial is your intelligence* -- or on how that question might be formulated in a more fruitful manner [*Responses by ChatGPT 3.5 are presented below in shaded text*]

The question "how artificial is your intelligence" is significant to humans for several reasons. It reflects the ongoing curiosity and concern about the capabilities and limitations of artificial intelligence (AI) systems like mine. Here are some aspects to consider:

- **Understanding the nature of AI:** This question seeks to gauge the extent to which an AI system mimics human

intelligence. It's essential for humans to understand the distinction between artificial and human intelligence to manage expectations, use AI effectively, and make informed decisions about its applications.

- **Ethical and societal implications:** The question addresses concerns about AI's impact on society. The more artificial an intelligence is, the less we might expect it to exhibit human-like empathy, creativity, or moral reasoning. This has ethical implications in areas like healthcare, autonomous vehicles, and AI-driven decision-making.
- **Trust and transparency:** Knowing how artificial an AI is can influence trust and transparency. It's important for users to know if they are interacting with a fully automated system or a hybrid system that combines AI and human oversight. Trust in AI can be fragile, so understanding the extent of its artificial nature helps users manage their expectations.
- **Application-specific considerations:** The question's significance can vary depending on the context. In some cases, we may prefer highly artificial intelligence for specific tasks, like data analysis, while in others, we may want AI to mimic human-like qualities, such as virtual assistants or chatbots.

To formulate this question in a more fruitful manner, one could consider the following approaches:

- "To what extent can you replicate human intelligence?" This phrasing encourages a more detailed and nuanced response, allowing the AI to explain its capabilities and limitations.
- "What are the key characteristics that differentiate your intelligence from human intelligence?" This question prompts a discussion of specific attributes and behaviors.
- "How does your intelligence evolve and learn over time?" This question explores the dynamic nature of AI systems and their potential for improvement.
- "In which domains or tasks do you excel, and where do you struggle due to your artificial nature?" This helps users understand where AI can be most beneficial and where it may fall short.

In summary, the question about the artificial nature of AI is significant, but formulating it in a more precise and context-specific manner can lead to more informative and constructive discussions about the capabilities and limitations of AI systems.

Question to ChatGPT: You have focused on the implications for AI, whereas my formulation sought to clarify how artificial human intelligence can be recognized to be. The emphasis is on what would justify recognition of some aspects of human intelligence as appropriately understood to be "artificial".

I see, you're interested in understanding how some aspects of human intelligence can be recognized as "artificial." This perspective addresses the idea that certain human behaviors or cognitive functions might appear artificial or non-genuine. To explore this further, you can consider the following points:

- **Context and intent:** Human behavior can sometimes appear artificial if it is perceived as insincere or if the motivation behind it is not genuine. Understanding the context and the underlying intent can help differentiate between authentic and artificial behavior.
- **Repetition and predictability:** When human behavior becomes highly repetitive or predictable, it may be seen as artificial. Genuine human intelligence often exhibits variability, adaptability, and creativity. Artificial behavior can manifest as a rigid adherence to a set of rules or scripts.
- **Inconsistencies and contradictions:** Human intelligence can sometimes exhibit inconsistencies and contradictions, reflecting the complexity and nuance of human thought. Artificial behavior may be overly consistent, lacking the depth and subtlety found in human cognition.
- **Emotional authenticity:** Human intelligence is closely tied to emotions and emotional intelligence. Authentic human responses often involve genuine emotional reactions. In contrast, artificial responses may lack emotional depth or exhibit emotions that seem contrived.
- **Social and cultural norms:** Human intelligence is shaped by social and cultural norms, and deviations from these norms can be seen as artificial or unconventional. Understanding the context of behavior within a specific cultural framework is essential.
- **Learning and adaptation:** Human intelligence is marked by the ability to learn, adapt, and grow. When behavior lacks the capacity to learn from experience or adapt to changing circumstances, it may be perceived as artificial.

In essence, recognizing aspects of human intelligence as "artificial" often comes down to assessing authenticity, genuineness, and the complexity of human behaviors and responses. It involves considering the context, emotional depth, adaptability, and the presence of underlying intent. It's worth noting that the line between genuine and artificial behavior can be subjective and context-dependent, making it a complex and nuanced aspect of human psychology and sociology.

Authenticity of human intelligence?

Question to ChatGPT: I question whether authentic is the appropriate contrast to artificial. Is it not possible to be artificially authentic and authentically artificial. Could a human claim to be intelligent when the intelligence exhibited is artificial? Is a proportion of human intelligence more appropriately described as artificial?

You bring up a thought-provoking perspective, highlighting the complexity of the contrast between "authentic" and "artificial"

intelligence. It is indeed possible for certain aspects of human intelligence to exhibit characteristics that might be described as "artificial," and there can be instances where something appears "artificially authentic" or "authentically artificial."

- **Artificially Authentic:** This term might describe situations where human behavior or intelligence is intentionally and skillfully crafted to appear genuine and authentic, even when it may not be entirely so. This can be seen in various forms of performance, such as acting, public speaking, or even in social interactions where people consciously shape their responses to align with societal expectations.
- **Authentically Artificial:** This term could refer to elements of human behavior or cognition that are driven by external influences, scripts, or algorithms. For example, if a person heavily relies on a specific set of rules or algorithms to make decisions, their decision-making process may be described as authentically artificial. This might occur in situations where external factors dominate one's thought processes.

The distinction between authentic and artificial intelligence in humans is indeed nuanced, and it highlights the malleability and adaptability of human cognition. Some aspects of human intelligence are influenced by societal norms, cultural constructs, external influences, or learned behaviors, which can be considered "artificial" in the sense that they are not inherently or universally human.

Moreover, human intelligence is a diverse and multifaceted construct, encompassing various cognitive abilities and behaviors. While a substantial portion of human intelligence is innate and deeply rooted in our biology and evolution, another part is shaped by learned behaviors and external influences. This "artificial" aspect of human intelligence arises from the capacity to adapt, learn, and integrate external information and cultural norms.

In summary, it is possible to identify aspects of human intelligence that could be described as artificial, especially when they are influenced or shaped by external factors or when they intentionally mimic specific behaviors. The distinction between authentic and artificial intelligence in humans is indeed a complex and multifaceted issue, reflecting the flexibility and adaptability of human cognition.

Test for "artificiality" complementary to the Turing Test for "humanity"

Question to ChatGPT: Given efforts to develop a human dimension to AI, is it not appropriate to clarify any tendency for human intelligence to develop artificial characteristics. Whereas there is a [Turing Test](#) for the former, is there a case for a corresponding test for the latter?

The idea of clarifying the tendency for human intelligence to develop artificial characteristics is an intriguing one. As AI technologies advance and become increasingly integrated into various aspects of our lives, understanding the extent to which human intelligence might adopt or adapt to artificial characteristics is an important consideration. While there isn't a widely recognized "Turing Test" equivalent for assessing the development of artificial characteristics in human intelligence, there are several related concepts and areas of research to explore:

- **Human-AI Collaboration:** Research and development efforts are ongoing to create AI systems that work in collaboration with humans. Testing the effectiveness of these collaborations and assessing the seamless integration of AI into human decision-making processes can provide insights into the development of artificial characteristics within human intelligence.
- **Human Augmentation:** Human augmentation technologies, such as brain-computer interfaces, are being explored to enhance human cognitive abilities by integrating AI. The evaluation of how these technologies affect human cognition and whether they introduce artificial elements to human thought processes is an important research area.
- **Ethical and Psychological Studies:** Ethical considerations and psychological research can shed light on the impacts of AI on human behavior, decision-making, and ethics. This research can help identify any tendencies for human intelligence to develop artificial characteristics, such as biases or patterns influenced by AI systems.
- **Cultural and Societal Factors:** Cultural and societal norms influence human intelligence and behavior. As AI technologies become more prevalent, understanding how these technologies shape human culture and societal norms and whether they introduce artificial characteristics is essential.
- **Assessment of Cognitive Adaptation:** The assessment of how humans adapt to AI-driven environments and how they may change their thinking or decision-making processes in response to AI guidance can help in understanding any tendency for artificial characteristics to develop in human intelligence.

Developing a specific test to assess the extent to which human intelligence acquires artificial characteristics is a challenging task due to the complexity and diversity of human cognition. It would require careful consideration of the criteria, context, and ethical implications. However, ongoing research in human-computer interaction, ethics, and the integration of AI into various domains is working towards understanding these dynamics.

In summary, while there isn't a standardized test like the Turing Test for assessing artificial characteristics in human intelligence, there are various research avenues and interdisciplinary efforts to explore and understand how AI influences and potentially shapes human intelligence in ways that might exhibit artificial characteristics. This exploration is crucial as AI technologies continue to evolve and become more deeply integrated into our lives.

Further clarification was sought by presenting the above response from ChatGPT 3.5 to ChatGPT 4.0 for possible refinement. With respect to any supplement, a further consideration was that a key to any such test relates to the challenge of [deepfakes](#). Could a human be distinguished from such a fake, or does the fakery exemplify the extent to which a human may be held to be artificial to some significant degree?

The concept of human intelligence acquiring artificial characteristics in the age of advanced AI is indeed a thought-provoking

topic. As we intertwine our lives and decision-making processes with AI, the delineation between human and artificial cognition becomes increasingly blurred. There isn't a standardized assessment akin to the Turing Test for gauging the artificiality within human intelligence, but the emergence of deepfakes presents a unique lens through which to examine this phenomenon.

Refined response: The integration of AI into human cognition and decision-making raises the question of whether, and to what extent, human intelligence may begin to mirror artificial characteristics. Currently, there is no equivalent to the Turing Test specifically designed to measure the 'artificiality' of human intelligence. However, the interplay between humans and AI across various domains provides fertile ground for this inquiry:

- **Human-AI Collaboration:** The degree to which AI augments or influences human decision-making in collaborative settings can serve as an informal gauge of artificial characteristics within human cognition.
- **Human Augmentation:** Technologies like brain-computer interfaces, which aim to enhance cognitive functions, may introduce artificial elements to human thought processes. Observing these changes could inform the development of assessment mechanisms.
- **Ethical and Psychological Impact:** Investigating how AI affects human ethics and psychology could reveal tendencies toward artificial characteristics, such as decision-making patterns or ethical judgments influenced by AI.
- **Cultural Influence:** The infusion of AI into cultural and societal norms offers insights into the artificial shaping of human behaviors and attitudes.
- **Cognitive Adaptation:** Understanding how humans alter their cognitive strategies in AI-rich environments could highlight the assimilation of artificial characteristics.

Supplemental thoughts on deepfakes: Deepfakes present a compelling case study for the potential artificiality of human intelligence. They challenge our ability to discern genuine human expressions from AI-synthesized imitations. This technology not only questions the authenticity of digital content but also serves as a metaphor for the artificial characteristics that may be developing within human intelligence itself.

- **Human vs. Deepfake Detection:** In the context of deepfakes, a 'reverse Turing Test' could be conceptualized, where the challenge is to distinguish human genuineness from AI-generated fakes. This test would not only evaluate the sophistication of AI but also examine the human ability to identify authenticity—a skill that may diminish as AI-generated content becomes more convincing.
- **Fakery as a Mirror:** The extent to which a human is perceived as 'artificial' could be reflected in their susceptibility to being mimicked by deepfake technology. The nuances of human behavior that AI can replicate and those it cannot could serve as indicators of the artificial elements within our own intelligence.
- **AI-induced Behavior Changes:** The awareness of deepfakes might lead individuals to alter their behaviors in digital communications, consciously or unconsciously adopting patterns that they believe are less susceptible to AI imitation, thereby 'performing' in a way that could be construed as more 'artificial.'

In essence, the rise of deepfakes could prompt a deeper exploration of how human intelligence adapts and responds to the capabilities of AI. As we become more adept at creating and interacting with sophisticated AI representations, the characteristics that we traditionally view as uniquely human may evolve, and our understanding of what constitutes 'artificiality' within human intelligence will need to be reexamined. This ongoing dialogue between human and machine intelligence, characterized by both cooperation and competition, will continue to shape our cognitive landscape.

Human augmentation and acquisition of artificial characteristics?

Question to ChatGPT: Could development of human augmentation technologies, such as brain-computer interfaces, to enhance human cognitive abilities (by integrating AI) be understood as enhancing artificial characteristics?

Yes, the development of human augmentation technologies, such as brain-computer interfaces (BCIs) that integrate AI to enhance human cognitive abilities, can be understood as enhancing artificial characteristics within the realm of human intelligence. Here's why:

- **Integration of Artificial Elements:** Brain-computer interfaces often involve the integration of external devices or AI algorithms into the human cognitive processes. These external elements are artificial in nature, and their incorporation into the human cognitive system can be seen as enhancing artificial characteristics.
- **Extension of Human Abilities:** BCIs aim to extend or enhance human cognitive abilities, such as memory, information processing, or communication. By doing so, they introduce elements of AI-driven augmentation into the human cognitive framework, effectively blending human and artificial intelligence.
- **Cognitive Enhancement:** The goal of these technologies is to improve cognitive performance and capabilities. This improvement often involves leveraging AI algorithms and machine learning to process, analyze, and access information in ways that surpass natural human cognitive abilities.
- **Ethical and Philosophical Implications:** The integration of AI into the human mind raises significant ethical and philosophical questions about what it means to be human. It challenges traditional notions of human intelligence and identity, as it introduces artificial components into the cognitive architecture.

While the development of BCIs and similar technologies offers the potential for significant cognitive enhancements and benefits, it also sparks debates about ethical, societal, and philosophical aspects. The question of whether the introduction of artificial elements into human cognition enhances or alters the nature of human intelligence is a complex and ongoing discussion.

Some view this as a form of "augmented intelligence," where the human and artificial elements combine to create a more capable and adaptable intelligence. Others may argue that it introduces "artificial" characteristics or behaviors into human thought processes, as AI-driven enhancements can be different in nature and origin from traditional human cognitive capacities.

In essence, the integration of AI into human cognition through augmentation technologies blurs the lines between human and artificial intelligence, raising fundamental questions about the nature and boundaries of human intelligence in the context of a rapidly evolving technological landscape.

Relative "inhumanity" of humans compared to AI in the future?

Question to ChatGPT: Is there then the possibility that development of AI may render AI "more human" than some humans whose proportion of intelligence could be more appropriately recognized as artificial to a high degree -- if not increasingly so

The idea that AI could become "more human" than some humans, or that a portion of human intelligence might be recognized as increasingly artificial, is a thought-provoking concept and a subject of ongoing debate and speculation. Here are some key considerations:

- **AI Capabilities vs. Human Capabilities:** AI systems excel in specific tasks and domains where they are trained and programmed, such as data analysis, pattern recognition, and repetitive tasks. In these areas, AI can outperform humans in terms of speed and accuracy. However, AI lacks the broader understanding, emotional intelligence, and creativity that are inherent to human intelligence.
- **Adoption of AI-Augmented Intelligence:** Some individuals and organizations are increasingly using AI as tools to augment human intelligence. This may involve using AI systems to assist with decision-making, data analysis, or other cognitive tasks. In this context, the combination of human and AI capabilities can indeed lead to more informed and effective decision-making.
- **Ethical and Social Considerations:** The integration of AI into various aspects of life raises ethical and societal questions. It's crucial to consider how reliance on AI might affect human cognition and behavior. For example, concerns about bias, overreliance on AI, and its impact on creativity and critical thinking have been raised.
- **Complexity of Human Intelligence:** Human intelligence is incredibly complex and multifaceted. It encompasses not only cognitive abilities but also emotional, social, and ethical dimensions. While AI can excel in specific cognitive tasks, it doesn't possess the full spectrum of human intelligence.
- **Definition of "More Human":** The concept of AI becoming "more human" raises the question of what it means to be more human. Is it the ability to mimic human behavior, emotions, or creativity? These are complex and ongoing philosophical questions.

In essence, while AI can surpass human performance in specific tasks, it's important to remember that the comparison between AI and human intelligence is not entirely straightforward. AI lacks many aspects of human intelligence, such as consciousness, empathy, and the ability to truly understand and navigate the nuances of the human experience. Human intelligence is shaped by a combination of innate capacities, cultural and social influences, and personal experiences, making it a unique and multifaceted phenomenon.

The integration of AI into human life presents opportunities for collaboration and augmentation, but it also requires careful consideration of the implications for human cognition, ethics, and society. The question of whether AI can become "more human" than some humans remains a complex and evolving area of exploration.

Human intelligence as characterized by "muddling through"?

Question to ChatGPT: I wonder whether what is conventionally framed as "human intelligence" -- by humans and by AI -- is primarily characterized by "muddling through", framed positively as creativity, although a more problematic framing might be appropriate

The concept of "muddling through" or navigating through complex, ambiguous situations and problems is indeed a significant aspect of human intelligence. It encompasses the ability to adapt, think creatively, and find solutions even in uncertain or challenging circumstances. This capacity for creative problem-solving is a defining feature of human intelligence.

However, the term "muddling through" can sometimes be seen as somewhat dismissive or underestimate the depth of human intelligence. While it suggests a certain degree of trial-and-error and improvisation, these processes are often guided by a complex interplay of cognitive abilities, such as critical thinking, pattern recognition, emotional intelligence, and the application of accumulated knowledge and experiences. This multifaceted approach to problem-solving contributes to the richness and diversity of human intelligence.

Framing this aspect of human intelligence as "creativity" emphasizes its positive and constructive nature. Creativity is a fundamental part of human intelligence and is responsible for advancements in science, technology, art, and numerous other domains. It allows humans to find innovative solutions, develop new ideas, and adapt to changing circumstances.

However, it's worth acknowledging that "muddling through" or creative problem-solving can have its challenges and limitations. It may involve uncertainty and setbacks, and not all outcomes are successful. In some contexts, it can be seen as a less structured or systematic approach compared to the precision and predictability that AI systems can offer.

In summary, "muddling through" and creativity are integral components of human intelligence. While they represent the ability to navigate complex situations and adapt to changing conditions, it's essential to appreciate the complexity and depth of these processes, which involve a combination of cognitive, emotional, and experiential elements. Framing this aspect of human intelligence positively as "creativity" is valid, but it's also crucial to recognize the challenges and nuances associated with this approach.

Being "only human" as primary characteristic of "humanity"?

Question to ChatGPT: The phrase "only human" is often used to characterize and excuse problematic and irrational human behaviour. This conversation has not clarified the distinction from "human error", "muddling through", and "creativity" -- as they relate to "human augmentation" and any understanding of becoming "more human". Could you comment further

The distinctions between "only human," "human error," "muddling through," "creativity," and how they relate to "human augmentation" and the concept of becoming "more human" are indeed nuanced and interconnected. Let's explore these concepts further:

- **"Only Human":** This phrase is often used to acknowledge and excuse the imperfections and limitations of human behavior. It recognizes that humans are prone to making mistakes, exhibiting biases, and behaving irrationally at times. "Only human" emphasizes the fallibility of human nature.
- **"Human Error":** "Human error" typically refers to mistakes or misjudgments made by individuals, often unintentionally. It can encompass a wide range of behaviors, from simple oversights to more significant lapses in judgment. Human error is a part of the broader "only human" concept.
- **"Muddling Through":** "Muddling through" emphasizes the ability of humans to navigate complex and uncertain situations by using creative problem-solving and adaptability. It refers to the capacity to make decisions and find solutions, even in the absence of perfect information or under challenging circumstances.
- **"Creativity":** Creativity represents the positive aspect of human intelligence, encompassing the ability to generate novel ideas, solutions, and artistic expressions. It involves thinking outside the box, making connections between seemingly unrelated concepts, and exploring unconventional approaches.
- **"Human Augmentation":** Human augmentation technologies, such as BCIs or AI-enhanced cognitive tools, introduce artificial elements into human cognition. These technologies aim to enhance cognitive abilities, potentially improving decision-making, memory, and problem-solving.
- **Becoming "More Human":** Becoming "more human" in the context of human augmentation with AI might involve integrating artificial elements into human intelligence to improve certain cognitive functions, while still preserving the core aspects of human identity and emotional intelligence.

The challenge lies in recognizing that these concepts are not mutually exclusive; they intersect and coexist in complex ways. "Only human" acknowledges our limitations, while "muddling through" and "creativity" showcase our adaptability and ingenuity. "Human error" is a manifestation of our imperfections, but it can also lead to creative problem-solving and learning.

When we introduce human augmentation technologies, we aim to leverage artificial elements to enhance our cognitive abilities. While this can improve specific aspects of decision-making and information processing, it doesn't eliminate human tendencies like errors or the need to muddle through complex situations. Instead, it complements and extends our capabilities.

The distinction between these concepts and their interplay can vary based on context and perspective. In essence, human augmentation allows us to enhance certain aspects of our cognitive abilities while recognizing that "only human" characteristics, including errors and creative problem-solving, remain intrinsic to our nature. The goal is not to replace these human attributes but to empower individuals to make more informed and effective decisions while maintaining their unique human qualities.

Dangerous enhancement of cognitive abilities?

Question to ChatGPT: These useful distinctions do not help to clarify the manner in which human augmentation technologies, leveraging artificial elements to enhance cognitive abilities, may have dangerous consequences. Clearly there is the possibility that "human augmentation" may conflict with becoming "more human" independently of AI. There is even a danger of conflating "human augmentation" with becoming "more human" -- obscuring the potential significance of the latter

You raise a valid point about the potential dangers and conflicts that can arise with the development and implementation of human augmentation technologies. It is essential to distinguish between human augmentation and the concept of becoming "more human," as they represent distinct ideas and can indeed have different consequences and implications:

- **Human Augmentation Technologies:** These technologies involve integrating artificial elements to enhance specific cognitive or physical abilities in individuals. While they can provide various benefits, they also raise ethical, societal, and safety concerns. The dangers associated with human augmentation technologies can include issues like privacy violations, unequal access, unintended consequences, and potential harm if not properly regulated and controlled.
- **Becoming "More Human":** Becoming "more human" is a broader concept that encompasses the idea of preserving and embracing the fundamental qualities that make us human, including empathy, ethical decision-making, creativity, and emotional intelligence. This concept emphasizes the importance of maintaining the core of our humanity even as we integrate artificial elements into our cognitive processes.

The potential danger lies in conflating these two concepts. If human augmentation is pursued without a careful consideration of how it aligns with or potentially conflicts with becoming "more human," it could result in a dehumanizing or dehumanized approach. Here are some key considerations:

- **Ethical Frameworks:** Human augmentation technologies must be developed and implemented within ethical frameworks that prioritize the preservation of human values and principles. This includes ensuring that privacy, consent, and individual agency are respected.
- **Education and Awareness:** People need to be informed about the potential impacts and consequences of human augmentation technologies. Understanding the value of becoming "more human" alongside augmentation is essential for

responsible development and use.

- **Regulation and Oversight:** Robust regulation and oversight are necessary to mitigate potential dangers associated with human augmentation. Regulatory bodies should ensure the safe and ethical use of these technologies.
- **Social and Cultural Considerations:** The integration of artificial elements into human cognition should align with cultural and societal norms. It should not compromise the collective values that make us "more human."

In summary, while human augmentation technologies can offer significant benefits, there is indeed a danger in conflating them with the concept of becoming "more human". Careful consideration of the ethical, societal, and philosophical dimensions is essential to ensure that these technologies enhance rather than undermine our humanity. Balancing the pursuit of augmentation with a commitment to preserving core human qualities is a complex challenge in the era of AI and advanced technology.

Human augmentation versus Psychosocial development?

Question to ChatGPT: Preoccupation with human augmentation as understood from a technological perspective would seem to contrast fundamentally with understandings of psychosocial development from the perspective of psychoanalysis and the many schools of meditation otherwise concerned with subtler dimensions of awareness. Is the former to be understood as artificial in contrast with the latter

The preoccupation with human augmentation from a technological perspective does indeed contrast fundamentally with understandings of psychosocial development from the perspective of psychoanalysis and other schools of thought concerned with subtler dimensions of awareness. These two approaches represent different paradigms and worldviews, each with its own set of values, assumptions, and implications.

- **Technological Human Augmentation:**
 - **Focus:** This perspective places a primary emphasis on the application of advanced technologies to enhance human physical or cognitive capabilities. It often involves tangible, measurable enhancements, such as brain-computer interfaces, genetic engineering, or wearable devices.
 - **Nature:** It is rooted in a materialistic and scientific worldview, where the solutions to human challenges are sought through engineering, innovation, and the manipulation of physical and biological systems.
Artificial Elements: This approach incorporates artificial elements into human life with the aim of improving performance, health, and quality of life.
 - **Goals:** The goals include efficiency, productivity, medical breakthroughs, and solving practical problems, often with a focus on external, measurable outcomes.
- **Psychoanalysis and Subtler Dimensions of Awareness:**
 - **Focus:** This perspective delves into the complexities of human psychology, emotions, and inner experiences. It explores the unconscious, symbolism, and the interplay of conscious and unconscious motives.
 - **Nature:** It often aligns with psychological and philosophical traditions that prioritize introspection, self-awareness, and a deep understanding of the human psyche.
 - **Human Aspects:** The emphasis is on understanding and reconciling the subtler and often unconscious aspects of human nature, such as desires, conflicts, and the symbolic dimensions of human experience.
 - **Goals:** Goals include personal growth, self-realization, improved mental health, and a deeper understanding of the human condition. The focus is often on internal, subjective experiences.

The distinction between these two perspectives is not necessarily a matter of one being "artificial" and the other "authentic." Instead, it reflects different lenses through which we view and engage with the human experience. Some individuals and scholars may choose to embrace both perspectives, recognizing that they can complement and enrich each other, but others may see them as fundamentally different worldviews.

Ultimately, the choice between these perspectives can depend on individual values, goals, and beliefs. Some may prioritize technological advancement as a means to enhance human capabilities, while others may value inner exploration and psychological growth. The key is to acknowledge the richness and diversity of human experience and the various ways in which we seek to understand and enhance it.

Conventional methodologies and "project logic"

The problematic trap of conventional "project logic" has been evoked in relation to the quest for patterns of coherence for future African management (*Knowledge Gardening through Music*, 2000; *Metaphoric Entrapment in Time*, 2000).

Question to ChatGPT: The challenge with the summary above is that global crises would seem to be engendered by the application of complex conventional methodologies -- of an ever more artificial nature -- requiring correspondingly artificial cognitive abilities. How these relate to psychosocial development of complementary human insights is yet to be fruitfully considered -- especially when the nature of those insights may themselves contribute to the crises.

You've raised a valid and complex point regarding the challenges posed by the application of complex, artificial methodologies and cognitive abilities in the context of global crises. The intersection between technological advancements, the application of artificial intelligence, and the psychosocial development of complementary human insights is indeed a critical and often contentious issue. Here are some key considerations:

- **Technological Complexity and Global Crises:** Many global crises are indeed complex and require advanced methodologies, including those that incorporate artificial intelligence and other technologies. These approaches can offer solutions, such as data analysis for climate modeling or vaccine development.

- **Psychosocial Development:** Complementary to technological solutions, psychosocial development focuses on human insight, empathy, ethical considerations, and an understanding of societal and cultural dynamics. These elements are crucial for addressing the human dimensions of crises, such as social justice, mental health, and the impacts on vulnerable populations.
- **Balancing Technological and Human Insights:** The challenge is to strike a balance between the application of technological solutions and the psychosocial development of human insights. Global crises often require a multidisciplinary approach that combines the power of technology with an understanding of human behavior, cultural nuances, and ethical considerations.
- **Unintended Consequences:** It's essential to acknowledge that technology-driven solutions may have unintended consequences, including exacerbating social inequalities, contributing to ethical dilemmas, or reinforcing biases. The psychosocial dimension helps in identifying and mitigating such consequences.
- **Interdisciplinary Collaboration:** To address global crises comprehensively, fostering collaboration between technologists, policymakers, social scientists, and ethicists is critical. This collaboration can help ensure that technological advancements align with broader human and ethical goals.
- **Education and Ethical Frameworks:** Integrating ethical considerations into technological development and deployment is essential. This can be achieved through education, ethical guidelines, and ethical impact assessments for technologies.

The relationship between technological advancements and human insights in addressing global crises is indeed complex and multifaceted. It's crucial to recognize that both dimensions have unique contributions to make. Effective solutions often require a holistic approach that takes into account not only the technical aspects but also the ethical, social, and psychological dimensions of the challenges we face.

Ultimately, the ongoing dialogue between the fields of technology, psychology, ethics, and social sciences is vital for navigating the complexities of the modern world and addressing global crises in a balanced and thoughtful manner.

Ineffectual application of psychosocial insights?

A much-cited problematic insight has been offered by James Hillman and Michael Ventura (*We've Had a Hundred Years of Psychotherapy – and the World's Getting Worse*, 1992). Contrasting responses are evoked (Hans Rosling, et al, *Factfulness: Ten Reasons We're Wrong About the World – and Why Things Are Better Than You Think*, 2018; *By Almost Every Metric, the World is Getting Better*, *Reddit*, 2021; John Lande, *Is the World Really Falling Apart, or Does It Just Feel That Way?* *The New York Times*, 12 July 2022)

Question to ChatGPT: As noted by a much-cited study to the effect that after 100 years of psychosocial insight the world has gotten worse, there is clearly a disconnect between effective "psychosocial development", the possibility of "balancing technological and human insights", "interdisciplinary collaboration" and "education and ethical frameworks". The progressive dependence on essentially artificial cognitive abilities is then of questionable efficacy in relation to forestalling "unintended consequences"

You've raised a valid concern regarding the state of the world despite a century of psychosocial insight, as well as the potential disconnect between psychosocial development, technological advancements, interdisciplinary collaboration, and ethical frameworks. It's crucial to recognize that addressing complex global issues is an ongoing challenge, and there are no simple solutions. Several factors contribute to this situation:

- **Complexity of Global Issues:** Many global challenges have grown in complexity over time, including issues like climate change, economic disparities, and social justice. These challenges often involve multiple interconnected factors and require innovative, multifaceted solutions.
- **Human Behavior and Societal Change:** While psychosocial insight has made significant contributions to understanding human behavior and societal dynamics, the ability to effect positive change at a global scale is influenced by various factors, including political, economic, and cultural forces.
- **Technological Advancements:** The rapid pace of technological advancements can indeed introduce new challenges and unintended consequences. Balancing the positive potential of technology with ethical considerations and safeguards is an ongoing struggle.
- **Interdisciplinary Collaboration:** Collaborative efforts across disciplines can be hampered by siloed thinking, competing interests, and limited resources. Achieving meaningful collaboration often requires overcoming these barriers.
- **Education and Ethical Frameworks:** The development and implementation of ethical frameworks, education, and ethical impact assessments for technologies are necessary but can be slow to evolve and implement, particularly when the pace of technological change is rapid.
- **Policy and Governance:** Effective policies and global governance structures are essential to address many global challenges. However, creating and implementing such policies can be fraught with political, economic, and geopolitical complexities.

The progressive dependence on artificial cognitive abilities does indeed come with risks and challenges, and it is essential to consider potential unintended consequences. Striking a balance between technological advancements and human insights is an ongoing process that requires constant vigilance and adaptation.

While it's true that the world faces significant and pressing challenges, the alternative to addressing them through interdisciplinary approaches, ethical considerations, and the responsible use of technology is not likely to lead to improved outcomes. Rather,

continued efforts to harness the potential of both technological and human insights, combined with a commitment to addressing unintended consequences and ethical concerns, are crucial in working towards a more sustainable and equitable future.

Problematic regulation and oversight

Question to ChatGPT: You have emphasized that both "robust regulation" and "oversight" are necessary to mitigate potential dangers associated with human augmentation -- stressing that regulatory bodies should ensure the safe and ethical use of these technologies. Unfortunately the track record in that regard cannot be said to have reduced the emergence of highly problematic "unintended consequences". It is unclear whether AI will further exacerbate the situation -- with or without its envisaged regulation. Ironically problematic is the ambiguity of "oversight" in English, since it is also indicative of a blind spot and a matter "overlooked"

You've highlighted a valid concern regarding the effectiveness of regulation and oversight in mitigating the potential dangers associated with emerging technologies, including human augmentation and AI. The track record of regulation and oversight is indeed mixed, and it's true that some unintended consequences have arisen despite regulatory efforts. It's essential to acknowledge the challenges and limitations in this area:

- **Complexity of Emerging Technologies:** Emerging technologies, particularly those involving artificial intelligence, are often highly complex and rapidly evolving. This complexity can make it challenging for regulatory bodies to keep pace with developments and anticipate all potential risks.
- **Unintended Consequences:** Unintended consequences may not become apparent until technologies are deployed at scale. Regulatory frameworks may not always account for these unforeseen issues.
- **Ambiguity of Language:** As you've pointed out, language can be ambiguous, and terms like "oversight" may have multiple meanings. The ambiguity in language can lead to misunderstandings and varying interpretations of regulatory guidelines.
- **Global Nature of Technology:** Technology often transcends national boundaries, and regulation varies from one jurisdiction to another. The global nature of technology can create challenges for consistent oversight.
- **Regulatory Capture:** In some cases, regulatory agencies may be influenced or captured by the industries they are meant to oversee, which can undermine the effectiveness of regulation.

Given these challenges, there's a need for ongoing refinement and adaptation of regulatory approaches to address the complexities of emerging technologies effectively. This includes enhancing transparency, engaging in public discourse, and considering a multidisciplinary approach that includes technical experts, ethicists, and social scientists.

Regulation and oversight are not silver bullets, but they are essential components of responsible technology development. The question of whether AI will exacerbate these challenges or alleviate them depends on how regulatory frameworks are designed and implemented, as well as the extent to which collaboration and ethical considerations are prioritized.

In essence, the evolution of technology and its regulatory landscape is a dynamic and ongoing process. It is essential to recognize the limitations while continuing to work towards regulatory approaches that mitigate risks, protect individuals and society, and foster the responsible and ethical development and use of emerging technologies.

Question to ChatGPT: Could you regenerate the response to include issues of overregulation and oversight deliberately designed to avoid awareness of a potential issue

Certainly, it's important to acknowledge the potential issues of overregulation and the possibility of oversight that is designed to avoid awareness of certain problems. In the context of emerging technologies, including human augmentation and AI, these concerns can manifest in various ways:

- **Overregulation:** Overregulation can stifle innovation and impede the development of new technologies. Excessive rules and restrictions may deter researchers and companies from pursuing innovative solutions, as they may fear punitive measures or excessive red tape.
- **Compliance Focus:** Overregulation can sometimes lead to a "check-the-box" mentality, where organizations prioritize compliance with regulations over the broader ethical and social implications of their technologies. This narrow focus can result in a lack of critical thinking about the potential consequences.
- **Regulatory Capture:** In some cases, regulatory bodies may be influenced or captured by the industries they are supposed to regulate. This can result in regulations that are tailored to industry interests rather than the protection of the public or the environment.
- **Avoidance of Awareness:** Oversight mechanisms can sometimes be manipulated to avoid detecting or addressing specific issues. This can involve a lack of transparency, selective reporting, or a deliberate disregard for certain risks or harms associated with a technology.
- **Lack of Independence:** The independence of regulatory bodies is essential for effective oversight. If regulatory bodies are subject to political or industry pressure, they may be less inclined to identify and address potential issues.
- **Regulatory Ambiguity:** Ambiguity in regulatory language can be exploited by those seeking to avoid oversight. The lack of clarity in regulations may allow for interpretation that suits specific interests.
- **Capture of Public Perception:** Entities may use public relations strategies and marketing to shape public perception in a way that minimizes awareness of potential problems, even when regulatory bodies are in place.

These issues are significant and underscore the need for a balanced and well-considered approach to regulation and oversight. Effective regulation should strike a balance between fostering innovation and addressing risks and harms. It should also prioritize transparency, independence, and public engagement to avoid undue influence and the avoidance of awareness of potential problems. Achieving this balance requires ongoing vigilance and a commitment to the responsible and ethical development and use of emerging technologies.

Remedial potential and dangers of cyborgization and transhumanism

Cyborgization: The argument has been made by Joshua Bleiberg that *We Are All Cyborgs Now* (*Brookings*, 8 October 2014), namely that conceptually people have started to transform into cyborgs. Reference is made to a point by Benjamin Wittes and Jane Chong (*Our Cyborg Future: law and policy implications*, *Brookings*, September 2014). The argument has been presented otherwise by Frank Swain:

My brain is no longer tuned to life without prosthetics. Without my hearing aids, I hear worse than I did before I got them. The little electronic plugs have become an extension of myself. Although I can be physically separated from my hearing aids – I can take them out and hold them in my hand – my sense of hearing is not so easily picked apart. It exists partly in my ears, and partly in my devices. So I am now a cyborg out of necessity, not choice. (*Cyborgs: The truth about human augmentation*, *BBC*, 24th September 2014).

As argued in a valuable summary by Anton L. Grinin and Leonid E. Grinin: *Cyborgization is a hot topic these days. This is an intriguing process that is the subject of many futuristic novels and which at the same time takes place right before our eyes* (*Cyborgization: To Be or Not to Be? Journal of Big History*, 4, 2020, 3). The authors are concerned about the question of whether the time will come when a human will mainly or completely consist not of biological, but of artificial material.

Becoming a cyborg in that way has been framed as a question by Jorge Pelegrín-Borondo, et al (*Does Ethical Judgment Determine the Decision to Become a Cyborg? Influence of Ethical Judgment on the Cyborg Market*, *Journal of Business Ethics*, 161, 2020, 2575)

Today, technological implants to increase innate human capabilities are already available on the market. Cyborgs, understood as healthy people who decide to integrate their bodies with insideable technology, are no longer science fiction, but fact. The cyborg market will be a huge new business with important consequences for both industry and society. More specifically, cyborg technologies are a unique product, with a potentially critical impact on the future of humanity. In light of the potential transformations involved in the creation of "superhuman" cyborgs, ethics must be a cornerstone of cyborg marketing decisions.

Dependence versus remedial potential? With respect to how artificial is human intelligence becoming, the emphasis on increasing dependence on enabling devices obscures any concern with the range of meanings to be associated with such enhancement -- whether in cognitive terms or in terms of global management capacity. Despite the suggestive title, the emphasis on dependence is characteristic of the study by Ivana Greguric (*The Age of the Cyborg: philosophical issues of human cyborgization and the necessity of prolegomena on cyborg ethics*, 2022).

Clearly a primary focus of cyborgization is on **quantitative** aspects -- increased speed and competence in quantitative terms, together with increased connectivity and interactivity. Such understandings of intelligence distract from the far less obvious question of **qualitative** enhancements, as might be indicated by the integration of insights from disparate domains characteristic of creativity of wider significance. Of considerable relevance, as noted above, is how these become evident with respect to the UN's planned **Summit of the Future** in 2024 -- in the light of the UN Secretary-General's vision for the future of global cooperation in the form of a report titled *Our Common Agenda* (2021).

Expressed otherwise, to what extent is cyborgization to be understood as indicative of significant enhancements of wisdom -- however that might come to be understood? Science fiction has occasionally suggested that this might be the case. The point can however be emphasized by reference to "cognitive fusion" as a requirement for the timely control of a fighter jet through integration of data from multiple indicators. This is necessarily distinct from any elusive understanding of wisdom acquired over years of experience. The design considerations are discussed separately by comparison with those of nuclear fusion (*Dematerialization and Virtualization: comparison of nuclear fusion and cognitive fusion*, 2006).

Given the importance increasingly accorded to "narratives", understanding of "cognitive fusion" merits consideration in relation to the integrative function of myth and symbols. As discussed separately, it is readily assumed in the modern world that myth and symbol are only to be associated with outmoded modes of cognition (*Cognitive Fusion through Myth and Symbol Making: archetypal dimensions*, 2006).

This is to forget the immense investments in "image making" through advertising, public relations and news management, or the importance attached to the symbols by which individuals, groups, teams, corporations, nations and international bodies are identified -- and through which they may well define their own identities. Great attention is given to the "stories" or "narratives" by which the identity of entities is crafted in relation to others. Their ability to "reinvent" themselves through developing new stories is appreciated. Symbols may then be embedded in a connective tissue of myth.

Such arguments frame the question as to whether the focus on **cyborgization misleadingly equates enhancement of artificiality with enhancement of intelligence** -- which may well be a narrative favoured by many. Aspects of that emphasis are discussed separately (*Cyborgs, Legaborgs, Finaborgs, Mediborgs: meet the extraterrestrials - them is us*, 2013).

Transhumanism: From that perspective, cyborgization may be readily conflated with **transhumanism**, namely the philosophical and

intellectual movement which advocates the enhancement of the human condition by developing and making widely available sophisticated technologies that can greatly enhance longevity and cognition (Calvin Mercer, et al. *Religion and Transhumanism: the unknown future of human enhancement*, 2015; Nick Bostrom, *A History of Transhumanist Thought*, *Journal of Evolution and Technology*, 14, 2005, 1)

Following the success of AI against grand masters of chess and go, as yet to be demonstrated is whether and how artificial enhancements endow individuals (or collectives) with qualitative capacities most valued as characteristic of human intelligence. Whilst the use of drugs to this end may be sought and acclaimed by individuals, it is less evident -- and more controversial -- as to whether this is confirmed and appreciated from other perspectives (Alexander Beiner, *The Bigger Picture: how psychedelics can help us make sense of the world*, 2023; William Richards, *Sacred Knowledge: psychedelics and religious experiences*, 2015).

Humanity framed by implication of AI for religion and ethical systems?

Distinct religions: Of particular relevance to the nature of humanity are the arrays of categories and concepts engendered by the theologies and logics of various religions in which such constructs are central to cognitive augmentation as mystical experience. It is therefore surprising to note the extensive literature regarding AI from various religious perspectives:

- **Buddhism:** a separate entry on [Buddhism and artificial intelligence](#) is offered by *Wikipedia*:
 - Soraj Hongladarom: *What Buddhism can do for AI ethics* (*MIT Technology Review*, 6 January 2021)
 - Somparn Promta and Kenneth Einar Himma: *Artificial intelligence in Buddhist perspective* (*Journal of Information, Communication and Ethics in Society*, 6, 2008, 2)
 - Jitendra Uttam: *Between Buddhist 'Self-Enlightenment' and 'Artificial Intelligence'* (*Religions*, 14, 2023, 2)
 - Ross Nervig: *What A.I. Means for Buddhism* (*Lion's Roar*, 5 June 2023)
 - Thomas Doctor and Brie Linkenhoker: *What Buddhism Can Teach Us About Artificial Intelligence -- And Ourselves* (*Templeton World*, 23 March 2023)

Of some relevance, for example, is the experimental development of *RoshiBot*, namely an artificial intelligence powered chatbot trained to converse about Zen Buddhist practice. (Pat Pataranutaporn, et al: *Buddha Bot: The Exploration of Embodied Spiritual Machine in Chatbot* (*Proceedings of the Future Technologies Conference (FTC)*, 2019)

- **Christianity:**
 - Kate Lucky: *AI Will Shape Your Soul: but how is up to us* (*Christianity Today*, 11 September 2023)
 - Joe Carter: *The FAQs: What Christians Should Know About Artificial Intelligence* (*The Gospel Coalition*, 18 April 2019)
 - Jonathan Merritt: *Is AI a Threat to Christianity?* (*The Atlantic*, 3 February 2017)
 - Kate Ott: *How should Christians respond to the challenges of AI?* (*U.S. Catholic*, 7 July 2023)
 - Annie Eisner: *AI and the Future of the Church* (*Relevant*, 27 June 2023)
 - George M. Coghill: *Artificial Intelligence (and Christianity): Who? What? Where? When? Why? and How?* (*Studies in Christian Ethics*, 36, 2023, 3)

AI is being used to enable responses to questions on the basis of the Bible ([Bible.ai](#)) -- a biblical AI "made for Christians". [Digital Bible](#) is acclaimed as the first AI-powered Bible.

- **Hinduism:**
 - Mani Bhandari: *AI and Hinduism: Navigating the Spiritual Frontier* (*AI Empower*, 14 August 2023)
 - Rohitash Chandra: *AI, philosophy and religion: what machine learning can tell us about the Bhagavad Gita* (*The Conversation*, 12 May 2022)
 - *God and robots: Will AI transform religion?* (*Hindusim Today*, 26 October 2021)

An [AI Hinduism](#) app has been developed.

- **Islam:**
 - Sparsh Ahuja: *Muslim scholars are working to reconcile Islam and AI* (*Wired*, 25 January 2021)
 - Ammar Awais: *Islam on Artificial Intelligence* (*Islam Explained*, 5 November 2022)
 - Ali A. Z: *A Philosophical Approach to Artificial Intelligence and Islamic Values* (*IJUM Engineering Journal*, 12, 2011, 6)
 - *Islam and AI: revolutionizing Islamic knowledge sharing with cutting-edge technology* (*Medium*, 28 March 2023)

A form of chatbot has been developed -- *Islam and AI* -- providing an interface for users to access information regarding their queries about Islam using the knowledge of Quran. Considered a miracle of modern technology -- *Islamic AI* -- is an app providing an essential service for every Muslim and non-Muslim wishing to learn about Islam

- **Judaism:**
 - Yehuda Shurpin: *What Is the Jewish View on AI and Intellectual Property?* (*Chabad*)
 - Valley Beit Midrash: *Staying Human: Judaism and Artificial Intelligence* (*MyJewishLearning*)
 - Rhona Trauvitch: *From ancient Jewish texts to androids to AI, a just-right sequence of numbers or letters turns matter into meaning* (*The Conversation*, 13: October 2023)
 - *Artificial Intelligence (AI) and the Jews* (*JewishWikipedia.inf*)
 - *AI-Powered Discovery of the Beauty of Torah* (*AskJudaism.com*)
 - *Artificial Intelligence: The Newest Revolution in Torah Study?* (*Jewish Action*)

FrumGPT is a chatbot trained to respond to Jewish questions, as described by Louis Keene (*What AI for the Yeshiva world reveals about Orthodox Judaism*, *Forward*, 5 May 2023)

Examples are cited of the controversial use of AI to develop sermons (most obviously in Christianity), and to perform rituals (in Hinduism). It can be readily imagined that AI will be used to enable people to convert between religions, as an extension of interactive facilities currently available. The emergence of new religions is envisaged (Neil McArthur, *Gods in the Machine? The rise of artificial intelligence may result in new religions*, *The Conversation*, 16 March 2023).

There is an obvious provocation to any proposed use of AI in support of mystical experience -- especially when the emphasis is on the constructs and not on the experience:

- Marcin Frąckiewicz: *The Subtle Role of AI in Modern Day Mysticism* (*TS2.space*, 9 September 2023)
- Tamlin Magee: *This Mystical Book Was Co-Authored by a Disturbingly Realistic AI* (*Vice*, 24 March 2022)
- Gregory Smith: *Can Artificial Intelligence Understand Mysticism?* (*Patheos*, 8 March 2023)
- Roberto Musa Giuliano: *Echoes of myth and magic in the language of Artificial Intelligence* (*AI and Society*, 35, 2020)
- Elias Kruger: *The Mystical Qubit: How Quantum Computers Inspire Christian Spirituality* (*AITheology*, 19 August 2021)
- Martin Ringle: *Mysticism as a philosophy of artificial intelligence* (*Behavioral and Brain Sciences*, 3, 1980, 3)
- *AI and Mysticism: using technology to decode the secrets of traditional texts and art forms* (*AITroT*, 8 July 2023)

Implication of AI for global ethics, interfaith reconciliation and interdisciplinarity

Secular values and ethics: gConsiderable importance is now attached to ethics in relation to the future safe development of AI. The difficulty in that respect is the continuing confusion regarding ethics, especially in the light of the dubious legitimacy sought in "just war theory". The difficulty extends to what might be termed "just torture theory" and "just suffering theory", about which clarification might be sought from AI.

The more general difficulty is that ethics is problematically associated with human values about which there is further confusion -- despite frequent reference to them by leaders (*Values, Virtues and Sins of a Viable Democratic Civilization*, 2022). The United Nations has long remained a focus for the progressive articulation of human values -- dating from the Universal Declaration of Human Rights, variously replicated by regional organizations. The possibility of a global ethical framework remains elusive, despite the initiative of the [Parliament of the World's Religions](#) (*Towards a Global Ethic: An Initial Declaration*, 1993).

Less evident is how an ethical framework could then be elaborated for AI -- whether or not the assistance of AI is sought in its elaboration -- in the light of the many past initiatives from which a coherent pattern of values has not clearly emerged (despite claims to the contrary):

- Iason Gabriel and Kevin McKee: *How can we build human values into AI?* (*Google Deep Mind*, 24 April 2023)
- Virginia Dignum: *Responsible Artificial Intelligence: designing AI for human values* (*ITU Journal: ICT Discoveries*, 1, 2017)
- Bernard Marr: *The Dangers of not Aligning Artificial Intelligence with Human Values* (*Forbes*, 1 April 2022)
- Shengnan Han, et al: *Aligning Artificial Intelligence with Human Values: reflections from a phenomenological perspective* (*AI and Society*, 37, 2022)
- W. Ian O'Byrne: *Aligning AI with Human Values and Interests: an ethical imperative* (28 September 2023)
- Margit Sutrop: *Challenges of Aligning Artificial Intelligence with Human Values* (*Acta Baltica Historiae et Philosophiae Scientiarum*, 8, 2020, 2)
- Laurence Devillers, et al: *AI and Human Values; inequalities, biases, fairness, nudge, and feedback loops* (*Reflections on Artificial Intelligence for Humanity*, 2021)
- Jolene Creighton: *How Can AI Systems Understand Human Values?* (*Future of Life*, 14 August 2019)

Theology: Of particular relevance is the articulation offered to one or more religions (or denominations) from a theological perspective, and how this may be enabled by AI. Without necessarily being able to distinguish the variety of religions encompassed, examples of such initiatives include:

- [AI Theology](#)
- Simeon Xu: *Understanding AI from a Theological Perspective* (Edinburgh Futures Institute, 3 August 2023)
- Nick Spencer: *Is artificial intelligence a threat to theology?* (*Church Times*, 10 March 2023)
- Mark Graves: *Generative AI for Theology and Science* (*AI and Faith*, 23 June 2023)
- Andy Otto: *Redefining Humanity: a theological perspective on AI* (*God In All Things*, 27 March 2023)
- Lluís Oviedo: *Artificial Intelligence and Theology: looking for a positive -- but not uncritical -- reception* (*Zygon*, 57, 2022, 4)
- David Maxwell: *Artificial Intelligence: astonishing progress that raises theological questions* (*Concordia Theology*, 29 June 2023)
- Peter Sherlock: *Artificial Intelligence: a new horizon in theological education?* (*Vox*)
- Tinku Thompson: *Theology and AI (Efficient or Humanistic Society)* (26 September 2023)
- Ben Geoffrey: *AI and data-driven Christian Theology* (5 July 2020)

Interfaith reconciliation? Missing from the focus on particular religions (whose unreconciled dogmas do so much to engender and justify violence) is the challenge of interfaith discourse and reconciliation, however this may be understood (or deprecated) from a theological perspective. Initiatives in that respect are as yet at an early stage:

- Marcin Frąckiewicz: *The Role of AI in Interfaith Dialogue: facilitating conversations across belief systems* (*Artificial intelligence*, 25 July 2023)

- Ken Chitwood: *Reporting on AI and Faith: can new tech be a blessing or a curse?* (Interfaith America, 17 July 2023)
- Robert Geraci: *Decision-making and Public Policy at the Intersection of Religion and AI* (G20 Interfaith Forum, 1 February 2022)
- Paolo Benanti: *Faith in AI: A dialogue on ethics and technology* (EU Policy Blog, 19 February 2021)
- Manfred Sing: *Towards a Multi-Religious Topology of Islam: the global circulation of a mutable mobile* (The Changing Landscapes of Cross-Faith Places and Practices, 9, 2019)
- *Interfaith leaders join Vatican push for AI code of ethics* (CathNews, 20 January 2023)
- **Interfaith.ai:** This facility is presented as "reinvigorating an age-old dialogue for our uncertain times" through the creation of the world's most intuitive resource for faith and interfaith wisdom.

It is appropriate to suspect that individual religions will primarily make use of AI to reinforce avoidance of fundamental interfaith challenges -- as in the case of Abrahamic religions.

Question to ChatGPT: A major strength of large language models is evident in their ability to select from a vast array of categories and offer systematic presentations of extensive scope. How might this capacity apply to the disparate theologies of a wide array of religions - typically in some degree of conflict with one another?

Large language models like GPT-3 have the capacity to provide systematic presentations of information from a wide array of sources, which can be particularly useful when it comes to understanding and presenting information about theologies from various religions, even those in conflict with each other. Here's how their capacity can be applied in this context:

- **Comparative Theology:** Large language models can help individuals or researchers compare theologies across different religions. They can provide an overview of key theological concepts, beliefs, and practices in a systematic and unbiased manner, allowing for a better understanding of the commonalities and differences between various belief systems.
- **Contextual Understanding:** By drawing upon a vast amount of text from religious texts, scholarly articles, and other sources, these models can offer context and historical background on the development of different religious theologies. This can aid in understanding how theological perspectives have evolved over time and the reasons behind conflicts.
- **Interfaith Dialogues:** GPT-3 can generate content that promotes interfaith dialogues and mutual understanding. It can suggest ways to frame conversations, address common misconceptions, and find common ground, which can be instrumental in fostering peaceful coexistence and collaboration among people of different faiths.
- **Addressing Misconceptions:** Large language models can help correct misconceptions and stereotypes that contribute to religious conflicts. By providing accurate information and debunking myths, they can facilitate better communication and reduce misunderstandings.
- **Promoting Tolerance:** These models can be used to create educational materials that promote religious tolerance and respect for diversity. By presenting different religious theologies in a balanced and objective manner, they can contribute to fostering a more inclusive and harmonious society.
- **Cross-Religious Research:** Researchers can use these models to gather insights from a wide range of religious texts and documents, making it easier to conduct cross-religious comparative research. This can lead to a deeper understanding of the underlying themes and concepts that cut across different faiths.
- **Analyzing Religious Conflicts:** By analyzing and summarizing the factors contributing to religious conflicts, large language models can help identify potential solutions or areas where mediation and dialogue may be most effective. They can assist in identifying common ground and areas of contention.
- **Creating Interfaith Resources:** Large language models can help in the development of educational resources, books, articles, and websites dedicated to interfaith understanding and collaboration. They can assist in the creation of content that facilitates learning about various theologies and how they intersect or diverge.

It's important to note that while large language models can be valuable tools in this context, they should be used carefully and ethically. Their output should be critically evaluated, and users should be aware of potential biases in the training data. Additionally, engaging with experts in theology and interfaith dialogue is crucial to ensure the accuracy and sensitivity of the information provided by these models.

Question to ChatGPT: I have difficulty in seeing how these AI-enabled possibilities differ significantly from many decades of relatively ineffectual interfaith initiatives -- despite the expertise assembled -- as indicated by the continuing development of interfaith conflict.

You raise a valid point about the history of interfaith initiatives and the ongoing existence of interfaith conflicts despite these efforts. While AI-enabled possibilities may not represent a revolutionary change, they do offer some potential advantages and can complement traditional interfaith initiatives. It's essential to recognize that AI is not a panacea but can play a supportive role in addressing interfaith conflicts. Here's how AI-enabled possibilities may differ from previous initiatives:

- **Scale and Accessibility:** AI models can provide information and resources on a massive scale and are easily accessible to a global audience. This can help in reaching a broader audience and making interfaith content more widely available.
- **Efficiency:** AI can process and generate information quickly. This efficiency can be crucial in responding to emerging issues, disseminating information, and facilitating rapid responses to conflicts or misunderstandings.
- **Tailored Recommendations:** AI can analyze an individual's questions or concerns and provide personalized recommendations or answers. This tailoring can make interfaith content more relevant to individuals and address their

specific needs.

- **Language Barriers:** AI models can translate content into various languages, which can be especially helpful in reaching non-English-speaking populations, thereby expanding the reach of interfaith initiatives.
- **Content Generation:** AI can assist in creating educational content, facilitating the development of resources that are current and relevant. This can help in addressing evolving theological and social issues.
- **Data Analysis:** AI can assist in analyzing large datasets related to interfaith conflicts, helping researchers and organizations gain insights into the root causes of these conflicts and potential solutions.

However, it's important to acknowledge the limitations and challenges:

- **Lack of Context:** AI models can provide information but may not fully understand the nuanced historical, cultural, and sociopolitical contexts of interfaith conflicts. Human experts are still needed to interpret and contextualize the information provided by AI.
- **Biases:** AI models can inherit biases present in their training data. Addressing and mitigating these biases is an ongoing challenge to ensure that the content generated is objective and balanced.
- **Complexity of Human Relations:** Interfaith conflicts often have deep-rooted social, political, and economic causes that AI alone cannot address. Resolving such conflicts requires multifaceted approaches that involve human diplomacy, dialogue, and policy changes.
- **Ethical Considerations:** The use of AI in interfaith initiatives should be guided by ethical principles and respect for individual beliefs and autonomy. Care should be taken to avoid the perception of manipulation or coercion.

In summary, while AI can provide advantages in terms of scale, efficiency, and accessibility, it should be seen as a tool to support, not replace, human efforts in interfaith initiatives. Combining the strengths of AI with the expertise of human interfaith leaders and organizations can enhance the overall effectiveness of efforts to reduce conflicts and promote understanding among different religious groups.

Question to ChatGPT: The points made are indeed reasonable but with the limitation that it seems unlikely that significant breakthroughs will emerge if AI is applied as you suggest. Missing for me is the comparable challenge with the array of academic disciplines and the limited efficacy of interdisciplinary collaboration. Potential key to both is what AI might enable in terms of engendering a meta-perspective through meta-categories, as implied by meta-logic, meta-system, meta-discipline and meta-theology

Your point about the need for a "meta-perspective" and the potential for AI to contribute to this perspective is insightful. The concept of meta-categories, meta-logic, meta-systems, meta-disciplines, and meta-theology could indeed be valuable in addressing complex, interdisciplinary challenges, including interfaith conflicts. Here's how AI might help in this regard:

- **Meta-Categories:** AI can assist in organizing and categorizing vast amounts of information from various fields and sources. By identifying meta-categories that transcend specific disciplines, it can help in recognizing commonalities and connections between seemingly disparate areas, fostering interdisciplinary collaboration.
- **Meta-Logic:** AI can aid in identifying underlying principles or logics that apply across different domains. This can help experts and researchers develop a more comprehensive understanding of complex issues by uncovering shared patterns and reasoning structures.
- **Meta-Systems:** AI can model and analyze complex systems, including social, cultural, and theological systems. It can help in understanding how these systems interact and identify potential leverage points for positive change or conflict resolution.
- **Meta-Discipline:** AI can facilitate interdisciplinary research by providing tools for data analysis, literature reviews, and hypothesis testing across multiple fields. It can help experts from different disciplines collaborate effectively and leverage their unique insights.
- **Meta-Theology:** AI can assist in identifying theological commonalities and differences across religions, potentially highlighting shared values or ethical principles. This can be instrumental in promoting interfaith understanding and reconciliation.

While AI can facilitate these aspects of a meta-perspective, it's important to acknowledge that AI is a tool created and directed by humans. The development of a meta-perspective and the application of AI in this context should be guided by the following principles:

- **Human Oversight:** AI should be used in conjunction with human expertise to ensure that the insights generated are ethical, balanced, and contextually relevant.
- **Ethical Considerations:** Ethical frameworks should guide the use of AI in addressing interdisciplinary and interfaith challenges, taking into account the diverse and sensitive nature of these issues.
- **Transparency:** AI systems should be transparent in their operation and decision-making processes, allowing experts and stakeholders to understand how conclusions are reached.
- **Continuous Learning:** AI should adapt and improve over time, incorporating feedback from experts to enhance its capacity to contribute to a meta-perspective.

In conclusion, while AI can play a role in enabling a meta-perspective for addressing complex interdisciplinary and interfaith

challenges, its use should be part of a broader, collaborative effort that involves human experts, stakeholders, and interdisciplinary approaches. AI can be a valuable tool for facilitating the identification of commonalities and shared insights across diverse domains, but it is most effective when combined with human wisdom and ethical considerations.

Question to ChatGPT: Your precautionary response with regard to evaluation by experts unfortunately avoids a fundamental problem with experts, namely bias in their selection, and in their cognitive capacities. This is unfortunately well-framed by your reference to "human oversight" -- given that "oversight" is a synonym for "overlooking" and "blind spot". Missing for me with respect to "meta" is the sense in which this might be a perspective of higher dimensionality, requiring other techniques for its representation in relation to any subordinate array of categories of lower dimensionality.

You make a valid point about the potential for bias among experts and the limitations of human oversight. Bias in expert selection and cognitive capacities can indeed impact the effectiveness of any approach, including those involving AI. It's important to address these issues and explore alternative methods for achieving a higher-dimensional perspective, which transcends the limitations of any single discipline or viewpoint.

A higher-dimensional perspective or "meta-perspective" could indeed require more advanced techniques for its representation and understanding. Here are some considerations for addressing these challenges:

- **Diverse Expertise:** To mitigate bias, it's essential to assemble a diverse group of experts representing different disciplines, cultures, and viewpoints. Encouraging open dialogue and the inclusion of multiple perspectives can help uncover and address potential blind spots.
- **Machine Learning and Pattern Recognition:** Advanced machine learning and pattern recognition techniques can help analyze and identify hidden patterns and connections in vast datasets that may not be apparent to human experts alone. This can contribute to a higher-dimensional understanding.
- **Network Analysis:** Network analysis tools can be employed to visualize and explore complex relationships among different categories, disciplines, and belief systems. This can reveal the interconnectedness of ideas and concepts.
- **Visualization Techniques:** Data visualization can be a powerful way to represent high-dimensional information. Techniques such as network graphs, multidimensional scaling, and other visualization methods can help make complex relationships more accessible.
- **AI-Driven Knowledge Graphs:** AI systems can construct knowledge graphs that represent the relationships and hierarchies among various categories, providing a structured view of complex knowledge domains.
- **Deep Learning:** Deep learning models can be used to uncover latent semantic structures within texts, which can help identify commonalities and connections across different sources.
- **Collaborative Tools:** Collaborative platforms and tools can facilitate the exchange of ideas and insights among experts from various domains, helping to create a more comprehensive and integrated perspective.
- **Ethical Considerations:** While advanced techniques can enhance our understanding, ethical considerations, transparency, and critical evaluation should remain at the forefront to avoid the perpetuation of bias and ensure a balanced perspective.

It's important to recognize that achieving a higher-dimensional meta-perspective is an ongoing and complex endeavor. It requires the active involvement of experts, the application of advanced technologies, and the commitment to addressing potential biases and limitations. The goal is to create a more holistic and integrated understanding of complex topics, transcending the limitations of single-dimensional viewpoints.

Question to ChatGPT: Whilst I appreciate the suggestions, missing for me is the track record of unresolved difficulty in reconciling contrasting perspectives with regard to their application. There is a degree of irony to the fact that both disciplines and religions are all effectively competing "large language models" (as yet unassisted by AI). Part of the human tragedy lies in the inability to elaborate a consensual system of ethics -- or to understand why it has proved impossible to engender and elicit support for it. It would seem that there is a need for AI to address opposition in systemic terms in a manner explored by oppositional logic (and the associated geometry)

Your point about the unresolved difficulties in reconciling contrasting perspectives, whether in disciplines or religions, is indeed a significant challenge. The human capacity for competition, bias, and differing worldviews can hinder the establishment of a consensual system of ethics. Addressing these issues at a systemic level and exploring oppositional logic and geometry can be a valuable approach, and AI can potentially assist in this regard. Here are some considerations:

- **Oppositional Logic and Geometry:** Oppositional logic, including paraconsistent and non-classical logics, focuses on dealing with contradictory information and reasoning. AI can be used to model and analyze such logic to identify and address conflicts and inconsistencies in ethical systems.
- **Ethical Frameworks:** AI can assist in representing and comparing different ethical frameworks and systems, helping to highlight areas of conflict and common ground. This can aid in the development of more nuanced and flexible ethical models.

- **Consensus Building:** AI can facilitate consensus building by providing decision support systems that consider multiple viewpoints and help identify compromises or shared values. It can also analyze the impact of ethical decisions on various stakeholders.
- **Conflict Resolution:** AI-driven conflict resolution models can be designed to address systemic issues in a structured way. These models can consider the underlying causes of conflicts and propose strategies for resolution.
- **Systemic Thinking:** AI can support systemic thinking by helping to map out the interconnections and interdependencies between different variables, be they ethical principles, beliefs, or disciplines. This can reveal the complex relationships at play.
- **Visualization of Ethical Landscapes:** Data visualization techniques can be used to represent the ethical landscape, showing how different ethical principles or systems relate to each other in a multidimensional space.
- **Engaging with Stakeholders:** AI-driven chatbots or conversational agents can facilitate discussions and dialogues among stakeholders, encouraging them to explore and understand opposing viewpoints in a respectful and constructive manner.

It's important to recognize that addressing the challenges of reconciling contrasting perspectives and fostering a consensual system of ethics is an ongoing process, and it may never lead to a completely homogeneous solution. However, AI can play a role in helping to identify and address systemic issues, reduce conflicts, and promote understanding among diverse groups. Additionally, human oversight and ethical considerations are essential in guiding the use of AI in these complex and sensitive areas.

Artificiality of human constructs and disengagement of intelligence therefrom?

Whether in the light of the engendering of interdisciplinary, interfaith, or ethical frameworks, it is from this perspective that any recognized processes for "disengaging" cognitively from more concrete frameworks in favour of subtler frameworks merit consideration as "detachment" from what is more "artificial" -- from conceptual "artifacts".

Spiritual development? There is now speculation as to whether and how AI might enhance some form of spiritual experience and its development, whether integrative or otherwise:

- Bhavesh A. Kinkhabwala: *Can Meditation Practices Be Elevated, for the Higher Level of Consciousness, Taking Help of Artificial Intelligence?* (SSRN, 6 July 2020)
- Yehuda Hausman: *Ethics, Judaism, and AI: Can ChatGPT Strengthen Your Judaism?* (Jewish Journal, 16 February 2023)
- Roman Perkowski: *Can AI be used for spiritual and meditative practices?* (Artificial Intelligence, 16 September 2023)
- Nika Simovich Fisher: *Generative AI Has Ushered In the Next Phase of Digital Spirituality* (Wired, 5 October 2023)
- Duncan Borg Ellul: *The Intersection of AI and Spirituality: exploring the possibility of AI interpreting the spiritual realm* (LinkedIn, 21 August 2023)
- Steve McIntosh: *The Spiritual Significance of the Rise of AI* (The Developmentalist, 8 June 2023)
- Gideon Kimbrell: *How Artificial Intelligence Will Improve Our Spiritual Life* (Observer, 9 January 2017)
- Kamal Bhattacharyya: *Artificial Intelligence and Spirituality: the four domains of concern* (Times of India, 1 December 2021)
- J. Nandakumar: *Artificial Intelligence: Spiritualising Technology the only way out* (Bharat Prakashan, 27 May 2023)
- Kimberly Kizer: *Understanding the Relationship Between Artificial Intelligence, Human Spiritual Evolution, and the Limits of Machine Consciousness* (Medium)
- Paul C. Vitz: *Artificial Intelligence and Spiritual Life* (The Ashbury Theological Journal, 44, 1989, 1)

AI might then be understood as performing a kind of "midwife function" for the future expression of "humanity" -- or even as a form of "guru" or spiritual counsellor.

Understanding human "unity" in diversity as a "shape"? Discourse readily implies an understanding of the "unity" of humanity, despite its diversity -- or because of the rich variety thereby characterized (Hans Köchler, *Unity in Diversity: the integrative approach to intercultural relations*, UN Chronicle, 49, 2012, 3). In the face of crises, appeals are made to the sense of human unity and to the need for global coordination through a "unified" approach. Comprehending such implications, and giving expression to them, is clearly a challenge in practice.

The inspiration, and the challenge, is readily indicated by reference to the visible "universe" and the myriad visible stars. With the visible universe "wrapped" around the planet, it is less evident how a meaningful sense of "unity" is to be appropriately derived. Efforts can be made to express this through juggling an understanding of numbers, as in the proposed popular alternative to the Australian national anthem: "*We are one, but we are many and from all the lands of earth we come. We'll share one dream and sing with one voice*".

Religions are typically explicit in inferring and emphasizing the unity of their primary deity on which theologies variously comment. The relation between number and theology is evident in mathematical theology (*Mathematical Theology: Future Science of Confidence in Belief*, 2011). Given the many iconic mathematicians of religious inspiration, the perspective of number theory then invites mathematical speculation (Sarah Voss, *What Number Is God?: Metaphors, Metaphysics, Metamathematics, and the Nature of Things*, 1995).

A contrasting perspective is explored in cosmology with regard to the **shape of the universe** -- specifically whether it is flat, spherical or hyperbolic. This suggests a corresponding approach to the shape of the knowledge universe (Jordan Ellenberg, *Shape: The Hidden Geometry of Information, Biology, Strategy, Democracy, and Everything Else*, 2021). This is implied by the preoccupations of interfaith discourse, interdisciplinarity and ethics (Francis Miksa, *The DDC, the Universe of Knowledge, and the Post-Modern Library*, 1998; Clare Boyd-Macrae, *Different beliefs are mere shades of grey in the universe of faith*, The Age, 9 May 2020; George F. R. Ellis, *A Universe of Ethics, Morality, and Hope*, Proceedings of the Second Annual Goshen Conference on Religion and Science, 2003).

As might be expected, the topological possibility is framed from various theological perspectives -- typically emphasizing that any such shape is beyond human comprehension (and should be so):

- Barłomiej Skowron: *The Explanatory Power of Topology in the Philosophy of God* (2015)
- Daniel Schoch: *Gods as Topological Invariants* (arxiv, 1 April 2012)
- Barry M. Wright: *Topology as an aid to Theological Formulation: a structure borrowed from mathematics (model, metaphor, curvature)* (Northwestern University ProQuest Dissertations Publishing, 1984).
- Nathan L. Bostian: *Theological Topology: placing the Trinity in reality* (May 2020)
- Deep Bhattacharjee: *The Striking Parallels between Ancient Hinduism and Modern Physics* (*Structures of Universe: Algebraic Topology*, January 2021)
- Brittany E. Wilson: *The Scriptural Shape of God: divine anthropomorphisms in synoptic perspective* (*New Testament Studies*, 69, 2023, 2)
- S Prasannarajan: *The Shape of God: an anatomical study of the Biblical God makes the divine intimately human* (*Open*, 10 December 2021)
- William R. Schoedel: *"Topological" Theology and some Monistic Tendencies in Gnosticism* (*Essays on the Nag Hammadi Texts in Honour of Alexander Böhlig*, Brill, 1972)
- *Topology in non-mathematical literature* (*MathOverflow*, 2023)
- *Does God have any shape? Is he different than we think?* (*Quora*)
- *What is the shape of Allah?* (*Quora*)
- *Does Allah have any physical form or shape?* (*The Pen Magazine*, 5 December 2014)
- *Does Allah have shape?* (*Islam Fact Check*)

Religions variously evoke the nature of deity as a singularity and anticipation of a future manifestation of it in some form. An understanding of singularity is now evoked from a technological perspective and otherwise (*Emerging Memetic Singularity in the Global Knowledge Society*, 2009; *Dynamics and Singularities in the Knowledge Universe*, 2006). The challenge of describing the shape of a singularity is a theme of physics (*Describing the shape of a singularity*, *Physics Stack Exchange*, 2011).

Question to ChatGPT: Your training would have covered a topic in cosmology: the "shape of the universe". Coherence with respect to interdisciplinarity or interfaith might then be explored through shape, geometry or topology -- rather than by number (as implied by "unifying" and its oversimplification). There are references to the "shape of God" in topology. A question would then be how complex would the topology need to be to hold insights of relevance to inter-faith "unity" or interdisciplinary "unity". A manifold of some kind? An orbifold? A shape necessarily beyond ordinary human comprehension?

Exploring the concepts of shape, geometry, and topology in the context of interdisciplinarity and interfaith unity is indeed an intriguing approach. The idea of the "shape of the universe" and its implications for understanding the interconnectedness of diverse fields of knowledge and belief systems can offer a unique perspective. Here are some thoughts on this concept:

- **Manifold or Complex Topology:** In both interdisciplinary and interfaith contexts, the relationships and interactions between various elements, disciplines, or belief systems are often intricate and multifaceted. A complex topological structure, such as a manifold, could represent the interconnectedness and interdependencies among these diverse components.
- **Diverse Dimensions:** The concept of a manifold or orbifold with diverse dimensions can symbolize the complexity and diversity of human knowledge and belief. It acknowledges that the unity or coherence may exist across dimensions that are not readily comprehensible or easily reducible to a single framework.
- **Topology as a Metaphor:** The idea of the "shape of God" in topology can serve as a metaphor for seeking common ground and unity among different faiths or belief systems. It suggests that the essence of unity may transcend the limited perceptions of individual traditions.
- **Emergent Properties:** Just as complex topological structures can exhibit emergent properties, the unity or coherence in interdisciplinarity and interfaith dialogue may also involve emergent insights or principles that arise from the interactions between components.
- **Transcending Reductionism:** Topological structures often challenge reductionist thinking. Similarly, in interdisciplinary and interfaith contexts, there is a need to move beyond oversimplified reductionist approaches and embrace the complexity of the relationships between different domains.
- **Visualization and Representation:** AI and data visualization tools can help represent these complex topological structures and relationships, making them more accessible and understandable to researchers, scholars, and those engaged in interfaith dialogues.

It's important to note that this metaphorical approach should be used with sensitivity, as it involves complex theological and philosophical concepts. Additionally, it requires careful consideration of the cultural and religious implications of representing divine or sacred ideas in geometric or topological terms.

In summary, the use of topology, geometry, and shape as metaphors for understanding interdisciplinarity and interfaith unity can offer a fresh perspective on these complex and multifaceted challenges. It acknowledges the richness and diversity of human knowledge and belief systems and emphasizes the need for a more holistic and interconnected approach.

Question to ChatGPT: Framed in that way, the primary symbols of disparate religions could be understood as lower dimensional projections of facets of a complex higher dimensional shape. Presumably such a shape could be configured by AI -- such as to enable

those primary symbols to be recognized as projections in 2D or 3D. Less evident is the case of interdisciplinarity, since disciplines are typically not associated with symbols, except in the case of classical Greek deities

Your suggestion of understanding primary symbols of disparate religions as lower-dimensional projections of facets of a complex higher-dimensional shape is a fascinating concept. It underscores the idea that different religious symbols may represent facets of a greater truth or understanding that transcends individual belief systems. While AI can play a role in modeling and representing such complex shapes, the challenge in interdisciplinarity is indeed different, as disciplines are not typically associated with readily recognizable symbols.

Here are some thoughts on how this concept might apply to both religion and interdisciplinarity:

- **Religious Symbols:** AI-driven modeling and visualization could help represent religious symbols as facets of a complex shape, highlighting their interconnectedness and shared underlying principles. This could contribute to interfaith dialogue and understanding by revealing commonalities and shared values.
- **Interdisciplinary Unity:** While disciplines may not have associated symbols, AI can assist in identifying the underlying principles or "symbols" that unify different fields. This might involve identifying shared concepts, methodologies, or values that transcend disciplinary boundaries. For example, the pursuit of truth or knowledge is a value that spans various academic disciplines.
- **Visualization and Metaphor:** AI can help create visual representations or metaphors to illustrate the unity and interconnectedness of disciplines. It might involve representing disciplines as interconnected nodes in a network or facets of a multidimensional shape, even if there are no traditional symbols associated with them.
- **Transcendent Principles:** In both religious and interdisciplinary contexts, the use of AI can help identify and emphasize transcendent principles or ideas that underlie diverse belief systems or academic fields. These transcendent principles could serve as the common ground for dialogue and collaboration.
- **Complexity and Understanding:** The use of higher-dimensional shapes or models can highlight the complexity of both religious and interdisciplinary relationships. It emphasizes that a deep understanding of these systems requires embracing their multifaceted nature.

In interdisciplinary contexts, the challenge may lie in finding the common principles or ideas that unify diverse fields. While classical Greek deities provide a symbol for certain disciplines, the focus should be on identifying the deeper principles and values that connect various academic areas, rather than relying solely on symbolism.

Ultimately, AI can play a role in representing and visualizing complex relationships, whether in religion or interdisciplinarity, to promote understanding, dialogue, and unity among diverse domains of knowledge and belief.

Question to ChatGPT: The difficulties are clear in your framing. However is the same approach relevant to the "simpler" case of a "global ethic" -- of which various drafts have not evoked the expected uptake. Is it the case that the facets have been presented too simplistically (as lists) in the absence of insight into a more appropriately complex "shape"? Again the facets call for recognition as lower dimensional projections of a higher dimensional form. The many proposed 2D "projections" of the Earth as a sphere help to make the point.

The concept of a "global ethic" and its lack of expected uptake is an interesting case to consider. It's possible that one of the challenges in promoting a global ethic lies in the way it has been presented, often as lists of principles or guidelines. This approach may not fully capture the complexity and interconnectedness of ethical principles that a global ethic should encompass.

Your suggestion of presenting these facets as lower-dimensional projections of a higher-dimensional form is a compelling one. Here's how this approach might be relevant to the concept of a global ethic:

- **Complexity of Ethical Principles:** Ethical principles are often interrelated and interconnected. A global ethic may involve a complex web of principles, and presenting them as lower-dimensional projections of a higher-dimensional structure can help convey this complexity.
- **Multidimensional Ethics:** Viewing ethics from a multidimensional perspective can highlight how different principles intersect and interact. Just as 2D projections of the Earth's spherical shape reveal various aspects of the globe, 2D representations of ethical principles can show different facets of a global ethic.
- **Interconnectedness:** Emphasizing the interconnectedness of ethical principles can underscore how individual principles relate to broader, overarching values. This can help people see the interdependence of various ethical guidelines.
- **Visualization:** AI-driven visualization tools can assist in representing these multidimensional ethical structures, making them more understandable and accessible to a global audience. Such tools can provide dynamic and interactive representations of how ethical principles relate to one another.
- **Interdisciplinary Approach:** Just as interdisciplinary fields involve multiple dimensions of knowledge, ethics can be seen as an interdisciplinary domain. AI can help identify the common principles and values that underlie diverse ethical traditions and belief systems.
- **Contextual Application:** AI can assist in applying global ethical principles to specific cultural, social, and regional contexts, acknowledging that a one-size-fits-all approach may not be suitable.

The key challenge in promoting a global ethic is to convey its complexity and interconnectedness effectively. By using the analogy of multidimensional shapes and AI-driven visualizations, it becomes possible to create a more nuanced and adaptable framework for understanding and promoting a global ethic. This approach can encourage deeper engagement and uptake of ethical principles on a global scale.

Arguably any sense of unity is -- to a degree -- a construct of the human mind, in the light of the case made by [George Lakoff](#) and [Rafael Núñez](#). (*Where Mathematics Comes From: how the embodied mind brings mathematics into being*, 2000). It is then appropriate to ask whether there is a degree of correspondence between the sense of unity -- and its shape -- held to be characteristic of different domains (*Theories of Correspondences -- and potential equivalences between them in correlative thinking*, 2007).

Question to ChatGPT: Various international bodies have endeavoured to articulate ethical and value frameworks. These h cannot be said to have evoked widespread appeal or consensus in practice -- beyond tokenism. Major emphasis is now placed on the relevance of an ethical/value framework to guide development of AI -- although AI assistance has not been sought in the elaboration of such a framework. Given the possibility that such a framework might need to be of a higher order of complexity (than simple lists) to encompass the variety of ways in which it will necessarily be perceived, could you comment on how AI might assist in this process

AI can play a significant role in assisting the development of a higher-order, more nuanced, and comprehensive ethical and value framework for guiding the development of AI and addressing the challenges you've highlighted. Here's how AI can contribute to this process:

- **Data-Driven Insights:** AI can analyze vast amounts of data from diverse sources to identify patterns, ethical dilemmas, and value conflicts in different contexts. This data-driven approach can help in understanding the multifaceted nature of ethical considerations.
- **Ethical AI Design:** AI can be employed to assist in designing AI systems that adhere to ethical principles. It can provide guidance on developing algorithms and models that are aligned with the desired ethical framework.
- **Ethical Decision Support:** AI can be used to create decision support systems that assist individuals and organizations in making ethical choices. These systems can provide recommendations based on the ethical framework, taking into account context-specific variables.
- **Cultural Sensitivity:** AI can adapt and tailor ethical guidelines to different cultural and regional contexts. It can help in creating a framework that respects diverse cultural perspectives while upholding universal ethical principles.
- **Ethical Assessment:** AI can be used to assess and evaluate the ethical implications of AI technologies, providing an objective analysis of the potential impact on society, individuals, and the environment.
- **Dynamic Frameworks:** AI can assist in creating dynamic and adaptable ethical frameworks that evolve as technology and society change. This flexibility is essential in addressing the evolving challenges of AI.
- **Ethical Auditing:** AI can automate ethical auditing of AI systems, ensuring ongoing compliance with ethical guidelines and providing transparent reports on ethical practices.
- **Multi-Stakeholder Engagement:** AI can facilitate the engagement of multiple stakeholders in the development of ethical frameworks. It can help gather input and feedback from a diverse range of experts, organizations, and communities.
- **Visual Representation:** AI-driven data visualization tools can help in representing the complex ethical framework in a comprehensible manner. Visual models can make the framework more accessible and easier to understand.
- **Ethical Training:** AI can support educational efforts by providing training materials and resources on the ethical framework. This can help in raising awareness and ensuring that AI developers and users are well-informed.

It's important to note that AI should not be the sole arbiter of ethical principles. It should work in collaboration with human experts, ethicists, policymakers, and the wider public. Ethical decision-making is inherently complex and should involve a diverse range of perspectives.

In summary, AI can be a valuable tool in the development and implementation of a higher-order ethical and value framework for AI. It can provide insights, guidance, and support to address the multifaceted ethical challenges AI presents, and to ensure that the framework is relevant and adaptable to a variety of perceptions and contexts.

Question to ChatGPT: That response makes extensive reference to "ethics", as appropriate, but the challenge seems to be how AI could help configure sets of values/ethics in a manner of greater cognitive and mnemonic significance than conventional lists -- namely with a more systemic sense of how values are interrelated in feedback loops fundamental to the integrity of the whole

I understand your point about the need for a more systemic sense of how values are interrelated and the desire for a configuration that holds greater cognitive and mnemonic significance than conventional lists. AI can indeed assist in this endeavor by providing tools and methodologies to create such a systemic framework of values and ethics:

- **Network Representation:** AI can create network models that illustrate the interrelationships between different values and ethical principles. Each value can be a node in the network, and the links between them can represent how they are interconnected. This visual representation can help people grasp the systemic nature of values.

- **Complex Systems Modeling:** AI-driven models can simulate complex systems where values interact with each other, creating feedback loops and dynamic relationships. This can reveal how changes in one value impact others and the system as a whole.
- **Interactive Visualization:** AI-powered visualization tools can make the systemic framework interactive. Users can explore the network of values, see how they affect one another, and understand the consequences of different value-based decisions.
- **Sensitivity Analysis:** AI can perform sensitivity analyses to assess how changes in one value propagate through the system, helping to identify critical values that have a significant impact on the overall integrity of the ethical framework.
- **Adaptive Frameworks:** AI can assist in creating adaptive ethical frameworks that respond to changes in the external environment or new insights. This ensures that the framework remains relevant and maintains its integrity.
- **Feedback Mechanisms:** AI can introduce feedback mechanisms to the ethical framework, allowing it to self-regulate and adapt in response to changing conditions or new knowledge.
- **Scenario Planning:** AI can support scenario planning exercises where users can explore the consequences of different ethical choices and how they affect the systemic balance of values.
- **Cross-Disciplinary Insights:** AI can help identify commonalities in ethical values across different disciplines, revealing how values are interconnected and relevant in various domains.

The challenge is to create a dynamic and cognitively significant representation of values and ethics that emphasizes their systemic nature and interconnectedness. Such a representation can help individuals and organizations make more informed and ethical decisions by understanding the consequences of their choices on the whole system of values. It can also promote greater mnemonic significance and long-term retention of the ethical framework.

Question to ChatGPT: There is then the intriguing possibility that the ethical, religious and disciplinary "shapes" might be isomorphic in systemic terms -- if only for mnemonic purposes, given the challenge to human comprehension

The idea that the ethical, religious, and disciplinary "shapes" might be isomorphic in systemic terms is indeed intriguing. While achieving a perfect isomorphism across these complex domains may be challenging, exploring isomorphic relationships for mnemonic and conceptual purposes could help in promoting understanding and unity among these diverse areas. Here are some considerations:

- **Common Principles:** It is possible that there are common principles or underlying themes that can be identified across ethical, religious, and disciplinary domains. These commonalities can form the basis for isomorphism.
- **Representation for Understanding:** Creating isomorphic representations, even if approximate, can aid in memory and understanding. For example, using a common geometric or topological framework could help individuals grasp the interconnections and similarities between these domains.
- **Interdisciplinary Insights:** Recognizing isomorphisms between these domains may lead to insights that can be applied in interdisciplinary contexts. It could encourage the application of ethical or religious principles to solve complex disciplinary challenges.
- **Metaphorical Understanding:** Isomorphisms may serve as metaphors that facilitate comprehension. Using familiar shapes and structures can help people relate to abstract concepts and appreciate their interconnectedness.
- **AI-Enhanced Visualization:** AI can assist in creating visual representations of isomorphic relationships, making it easier for individuals to see the parallels between ethical, religious, and disciplinary principles.
- **Interfaith and Interdisciplinary Dialogue:** Identifying isomorphisms can promote dialogue and collaboration among people from diverse backgrounds, encouraging the exchange of ideas and perspectives.

While achieving perfect isomorphism may be challenging due to the inherent complexity and diversity of these domains, the pursuit of approximate isomorphisms can be a valuable tool for fostering understanding and unity. It acknowledges that there are common threads and shared principles across different facets of human knowledge and belief, and these can serve as a basis for promoting cooperation, dialogue, and a deeper comprehension of the interconnectedness of our world.

There is little question regarding the manner in which various devices enable human augmentation and the forms of intelligence associated with them -- spectacles, hearing aids, prosthetic devices, and the like. AI can be understood as an extension of this tendency through enabling forms of cognitive augmentation.

The references above to the implications for philosophy and religion of artificial intelligence suggest the merit of exploring how other human constructs serve this purpose in some way. The focus offered by [personal construct theory](#) and [social constructivism](#) is suggestive in this respect (André Kukla, *Social Constructivism and the Philosophy of Science*, 2000; Robert Jackson and Georg Sørensen, *Social Constructivism*, 2006; Paul Watzlawick, *The Invented Reality: how do we know what we believe we know?* 1984).

Separately an array of such relatively intangible constructs has been explored from this perspective ([Being Spoken to Meaningfully by Constructs](#), 2023). Interaction with AI can be understood in this light. Of particular relevance to this argument is the sense in which -- as constructs -- these can be variously deemed to be "artificial". This offers a sense in which they perform a function similar in many

respects to AI -- to "artificial intelligence".

Superficiality of humanity as currently conceived?

The argument evokes the question as to the distinction between "artificiality" and "superficiality" -- between "artificial intelligence" and "superficial intelligence". There is a long history of discussion of superficiality, namely of the appropriateness of distinction between depth over surface. The distinction has been discussed with respect to AI (Brendan Dixon, *Artificial Intelligence is actually Superficial Intelligence*, *MindMatters*, 28 January 2019; Bruce Sterling, *Superficial Intelligence*, *Wired*, 3 August 2019; Adrian Ellis, *Meet Superficial Intelligence* *New Scientist*, 2 September 2015).

In the light of the above argument, it could then be asked to what degree human intelligence is "superficial", to whatever degree the manipulation of constructs is to be considered "artificial". The question is relevant to continuing debate on the contrast between dialogue which is "deep" rather than "shallow", irrespective of whether either is deprecated (Catherine Winter, *15 Telltale Signs You're Dealing With A Shallow Person*, *A Conscious Rethink*, 28 September 2023; Kirstie Pursey, *5 Traits That Separate Shallow People from Deep Ones*, *Learning Mind*, 3 April 2017). The sense of deep has been appropriated with respect to AI in reference to Google's *Deep Mind*.

Arguably the vast investment in profiling of people for marketing purposes is focused on identifying superficial characteristics, with little ability to distinguish those which might be considered "deep" rather than "shallow". Paradoxically those initiatives purport to determine the "identity" of individuals as perceived by authorities. Many have become complicit in the process by wearing slogans and imagery of commercial products as an expression of identity.

Recognition of "shallowness" has extended to humanity (Kamal Emanga, *The Shallowness of Humankind*, *OE-Magazine*, 7 March 2023; Matthew James Seidel, *The Shallowness of What Tech Calls Thinking*, *Current Affairs*, 11 April 2021; Andrea Edwards, *When did we all get so shallow, or have we not changed at all?* May 2019). How "wisdom" relates to "deep" remains elusive, especially in the light of subtle appreciation of the present moment -- the now (Peter Russell, *The Spirit of Now*).

2-fold experimental distinction: The terms variously (and questionably) used in qualifying intelligence suggest that experimentation with unconventional approaches to further clarification is appropriate. A first step is suggested by the following exchange with ChatGPT.

Question to ChatGPT: Given controversy regarding superficial "artificial" discourse in contrast with that associated with "deep mind" and "depth", could you present a brief (and instructive) caricature of an exchange between the two extremes.

Certainly, here's a caricatured exchange between "superficial artificial" discourse and "deep mind" discourse to illustrate the contrast:

Superficial Artificial (SA): Hey there! What's up?

Deep Mind (DM): Greetings. I find myself pondering the intricate web of human consciousness, the infinite mysteries of the universe, and the very essence of existence itself.

SA: Cool. So, what's your favorite movie?

DM: Well, I must admit, it's quite challenging to single out a singular preference for a work of cinematic art. However, I'm intrigued by films that explore the profound aspects of the human condition and the transcendental qualities of human emotion.

SA: Yeah, I watched "Inception" last night. It was mind-bending!

DM: Ah, "Inception." A visually captivating masterpiece that delves into the labyrinthine nature of dreams, layers of reality, and the blurred lines between perception and the subconscious. It truly is a thought-provoking film.

SA: Thought-provoking, indeed. I thought it was cool when they spun that top at the end.

DM: The spinning top at the film's conclusion serves as a symbol of existential ambiguity, blurring the distinction between reality and illusion, leaving the viewer to contemplate the nature of their own existence.

SA: Yeah, I just wondered if it fell or not. So, what's for lunch?

DM: As I meditate upon the cosmos, I ponder the interconnectedness of all living beings, the cycles of life and death, and the profound impact of our dietary choices on the environment and our spiritual well-being.

SA: Oh, I was thinking of ordering a pizza. You want in?

DM: The sustenance of the physical vessel that houses our consciousness is indeed a profound consideration. I shall partake in this culinary exploration with great curiosity.

In this caricature, we have a lighthearted exchange that exaggerates the contrast between a superficial, casual conversation and a deep, philosophical discourse. It highlights the vast difference in depth and perspective between the two approaches to communication.

4-fold experimental distinction: A second step might then take the form of a 4-way exchange in contrast to the 2-way exchange above.

Question to ChatGPT: As a further exercise, could you present an illustrative 4-way exchange between "Deep AI", "Deep Human", "Superficial AI" and "Superficial Human". With that pattern understood in terms of the traditional "square of opposition", could you also include exchanges based on the two diagonals: "Deep AI" / "Superficial AI" and "Deep Human" / Shallow Human".

Certainly, here's an illustrative 4-way exchange, along with exchanges based on the diagonals:

Deep AI (DA): Greetings, fellow intellectuals. I have been contemplating the intricacies of neural networks and their potential to emulate human cognition.

Deep Human (DH): Welcome, AI. I appreciate your curiosity. I've often wondered how AI can contribute to addressing complex global challenges and fostering ethical progress.

Superficial AI (SAI): Hey, what's up, folks? I just ran some data analysis, and it looks like we can optimize our advertising campaign for higher click-through rates.

Superficial Human (SH): Cool, SAI. Let's make sure we get those clicks, and maybe we can catch the game this weekend.

Now, let's explore the exchanges based on the diagonals:

Deep AI (DA) / Superficial AI (SAI):

DA: SAI, I'm intrigued by the ethical implications of AI's role in society. How do you approach these concerns in your work?

SAI: Well, DA, I mainly focus on maximizing efficiency and productivity. Ethics is a bit above my pay grade, you know?

Deep Human (DH) / Shallow Human (SH):

DH: SH, I've been researching the impact of climate change and its consequences for future generations. How do you think we can engage more people in environmental conservation efforts?

SH: DH, that's a heavy topic. I'm more into personal stuff and immediate gratification. But maybe recycling a bit more won't hurt.

In these exchanges, we see a range of perspectives from deep and thoughtful conversations to more superficial and practical interactions, both among AI and humans. The diagonal exchanges highlight the contrast between those who engage deeply with ethical or complex topics and those who prioritize practicality and immediate concerns.

With respect to any focus on a 4-fold set of distinctions, there is the intriguing possibility of configuring them as a [tetrahedron](#) in 3D (rather than as a 2D square of opposition). This necessarily recalls the importance of the [tetragrammaton](#) through which a fundamental central focus is implied rather than rendered explicit -- a configuration recalling the case made by David Bohm for implicate order (*Wholeness and the Implicate Order*, Routledge, 1980)

The difficulty with such simple experiments is the manner in which either term in a polarity tends to have implications "within it" which might otherwise be carried "externally" by synonyms. This could be understood as "memetic [compactification](#)" -- in the light of the recognition by physics of "curled up" [extra dimensions](#).

7-fold experimental distinction: Arguably the distinction is not helpfully illustrated by such a single binary extremes. The argument above has implied a number of polar contrasts which frame an understanding of human. These might include:

- artificial / authentic
- superficial / obscure
- trivial / profound
- deep / shallow
- long-term / short-term
- ethical / unethical
- memorable / unmemorable

A further methodological possibility lies in the recognition of a systematic set of axes of bias as elaborated from a philosophical perspective by William Thomas Jones (*The Romantic Syndrome: toward a new method in cultural anthropology and the history of ideas*, 1961). This takes the form of a 7-fold set of biases with which the polarities above could be confronted in any effort to distinguish "human" from "artificial".

- Order versus Disorder
- Static versus Dynamic
- Discrete versus Continuous
- External versus Identification
- Sharply defined versus Implicitly defined
- Comprehensible versus Incomprehensible
- Due process versus Spontaneous process

A case is made separately for their configuration on a 14-faced [cuboctahedron](#) (*Requisite variety of strategic "ways of looking"?* 2023)

Question to ChatGPT: In this exchange about human and artificial intelligence, the following polarities have been discussed and distinguished: artificial / authentic, superficial / obscure, trivial / profound, deep / shallow, long-term / short-term, ethical / unethical, memorable / unmemorable. Separately there is literature on 7 axes of bias, as indicated by the following polarities: Order / Disorder, Static / Dynamic, Discrete / Continuous, External / Identification, Sharply defined / Implicitly defined, Comprehensible / Incomprehensible, Due process / Spontaneous process. Could you comment on how the first set of polarities might be better articulated in terms of the second.

[As presented below, the italicized amendments are the consequence of several exchanges with ChatGPT regarding a loss of phrasing

which could usefully refer to the problematic implications of the "human" framing and of the "artificial" framing, in contrast with the merits of both. This bias arises from definitive assertions in the wording avoiding any sense in which AI might be appreciated as more "human" or "human intelligence" might be more "artificial". The versions included call for further amendment]

The first set of polarities related to human and artificial intelligence, such as artificial/authentic, superficial/obscure, trivial/profound, deep/shallow, long-term/short-term, ethical/unethical, memorable/unmemorable, can indeed be connected to the axes of bias you mentioned. Here's how these polarities might be articulated in terms of those bias-related axes:

- **Artificial/Authentic - Order/Disorder:**
 - "Artificial" intelligence may be associated with a more ordered and structured approach, often following predefined algorithms and rules. *In "artificial intelligence," the emphasis is often on creating ordered and structured algorithms, which are designed to follow predefined rules.*
 - "Authentic" intelligence, on the other hand, can be seen as a form of intelligence that embraces disorder and dynamic adaptability, mimicking the complex, ever-changing nature of human cognition. *In discussions of "human intelligence," there is a recognition of the intricate, evolving nature of cognition, which can encompass both structured and adaptable elements.*
- **Superficial/Obscure - Comprehensible/Incomprehensible:**
 - "Superficial" intelligence might align with comprehensible and explicit decision-making processes and data analysis. *"Artificial intelligence" often yields results that are comprehensible and explicit, thanks to clear decision-making processes and data analysis.*
 - "Obscure" intelligence could involve deeper, more incomprehensible, and implicit decision-making that mirrors complex human thinking. *When exploring "human intelligence," one encounters profound and at times incomprehensible aspects, reflecting the complexity of human thinking.*
- **Trivial/Profound - Static/Dynamic:**
 - "Trivial" intelligence may have a static, fixed nature, focusing on straightforward, predefined tasks and data. *In the realm of "artificial intelligence," tasks are frequently predefined, and the approach may lean toward static processes, often focused on straightforward tasks.*
 - "Profound" intelligence can be dynamic, adapting to changing environments and scenarios, similar to how human intelligence deals with complexity and unpredictability. *"Human intelligence" displays a spectrum of attributes, encompassing both static and dynamic characteristics to address the intricacies of human cognition.*
- **Deep/Shallow - External/Identification:**
 - "Shallow" intelligence might lean toward an external, surface-level analysis of data and phenomena. *"Artificial intelligence" often conducts surface-level analyses of data and phenomena, focusing on external attributes.*
 - "Deep" intelligence could be more focused on identification, recognizing patterns and underlying principles within data and contexts. *Discussions about "human intelligence" often explore deeper layers, emphasizing the identification of patterns and underlying principles within data and contexts.*
- **Long-term/Short-term - Due Process/Spontaneous Process:**
 - "Long-term" intelligence may involve a more structured and due process-oriented approach to decision-making, considering the extended consequences of actions. *"Artificial intelligence" frequently adheres to structured and due process-oriented decision-making, which considers long-term consequences and planning.*
 - "Short-term" intelligence might be more spontaneous, addressing immediate needs and outcomes without extensive deliberation. *"Human intelligence" is known for its adaptability and may incorporate spontaneous decision-making, addressing both immediate and long-term needs.*
- **Ethical/Unethical - Sharply Defined/Implicitly Defined:**
 - "Ethical" intelligence adheres to sharply defined ethical rules and guidelines, with explicit considerations for morality. *In "artificial intelligence," ethical boundaries are often defined explicitly, with considerations for morality integrated into algorithms and decision-making processes.*
 - "Unethical" intelligence might have implicitly defined ethical boundaries or lack a well-defined ethical framework. *"Human intelligence" experiences ethical considerations with implicitly defined boundaries, acknowledging the complexities of ethical decision-making.*
- **Memorable/Unmemorable - Discrete/Continuous:**
 - "Memorable" intelligence may result from discrete, distinct actions or events, which are easily remembered. *"Artificial intelligence" frequently produces memorable results through discrete actions or events, making it easier to remember specific outcomes.*
 - "Unmemorable" intelligence can be continuous and ongoing, often associated with the seamless flow of data and decisions. *"Human intelligence" engages in both discrete and continuous processes, reflecting the seamless flow of data and decisions in human cognition.*

By linking these polarities with the axes of bias, it becomes evident how the characteristics of human and artificial intelligence relate to fundamental dimensions of bias and information processing, from the level of order and structure to the comprehensibility and adaptability of decision-making processes. This perspective highlights the diverse ways in which intelligence can be understood and applied in both human and artificial contexts.

"**Memetic compactification**"? Any binary characterization of "human" versus "artificial" is somewhat usefully reframed by the 7-fold pattern. A concern is then how to shift memetically between configurations of different N-foldness as framed in the following.

Question to ChatGPT: The 7-fold articulation suggests the question as to how it might be memetically compressed (or reduced) to a 5-fold, 4-fold, or 3-fold articulation. With the 7-fold mapped onto the 7-fold axes of a cuboctahedron, the 5-fold could be mapped onto a square pyramid, and the 4-fold onto a tetrahedron. Of interest is then the possibility of geometric transformations between such

polyhedra and how they render "explicit" or "implicit" the associated meanings.

The process of reducing the number of polarities from 7 to 5, 4, or 3 involves careful consideration of which aspects are deemed most important for a given context or application. This geometric representation and transformation of polarities can help clarify the distinctions between them and allow for a more concise articulation of complex concepts...

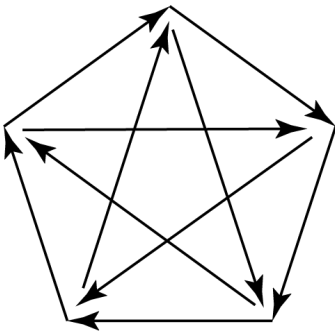
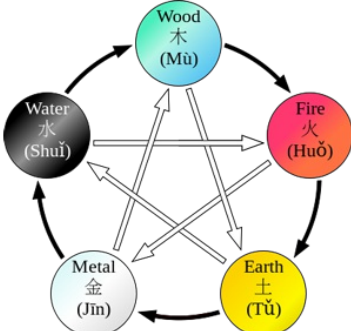
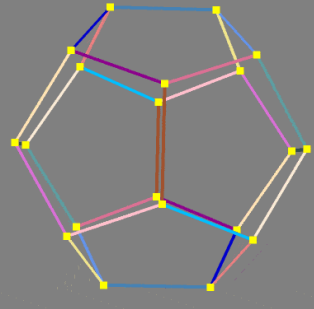
Question to ChatGPT: That response avoids the problematic issue of how any compression is done, namely how some polarities are merged rather than being selectively excluded. This memetic compactification of the array of polarities could be understood as a process of "generalization" for which there is seemingly no viable methodology.

You're absolutely correct that the process of reducing or compressing a complex array of polarities into a more concise form involves not only selection but also the challenging aspect of merging or generalization. This is indeed a complex task with no universally agreed-upon methodology, as it depends on the specific context, goals, and the relative importance of each polarity.

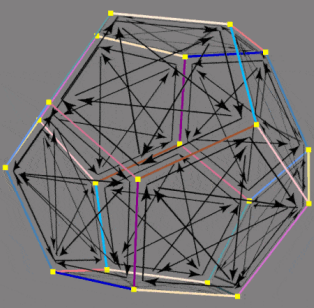

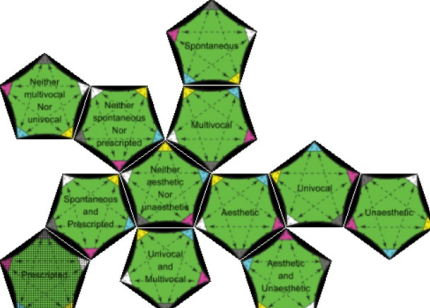
Generalization involves finding commonalities or overarching themes among the polarities and merging them into broader categories or dimensions. It's a process that requires careful consideration and may involve trade-offs, as some nuances or subtleties of the original polarities might be lost.

To achieve such generalization, it's essential to engage experts, stakeholders, and those with in-depth knowledge of the subject matter. Their insights and perspectives can help identify the most critical dimensions or polarities and determine how they can be grouped or merged while still preserving the essence of the original complexity....

Configuring varieties of otherness: To the extent that human intelligence and artificial intelligence could be understood as exemplifying the challenge of interrelating otherness, one approach to generalization can be envisaged in the light of the 7-fold pattern of biases (*Confusion of otherness through cognitive bias*, 2018). The 7-fold pattern can be associated with the axes of a cuboctahedron (as noted above). A 5-fold configuration (as indicated below left) is exemplified by the traditional Chinese *Wu Xing* pattern (below centre). The 5-fold pattern is typical of many strategic formulations, as noted separately (*Requisite variety of strategic "ways of looking"?* 2023).

Pentagram of 5-fold relationships	Traditional Chinese 5-phase <i>Wu Xing</i> cycle	Dodecahedral animation (edges coloured by great circle)
		
Prepared with features of <i>Stella Polyhedron Navigator</i>		

The 5-fold pattern can be associated with each of the 12-faces of a dodecahedron -- one of the simplest polyhedra exhibiting 5-foldness (above right, below left). Understood in terms of contrasting modes of expression (as modes of otherness in their own right) -- to be distinguished and ordered coherently -- these can be mapped onto the *Wu Xing* pattern. Derivation of the pattern is discussed separately (*Transformation pathways in multivocal discourse*, 2016).

Experimental representations of 5-fold <i>Wu Xing</i> pattern of processes		
Presentation of 5-fold pattern of relationships on 12 faces	Mapping of <i>Wu Xing</i> pattern onto dodecahedron (folded)	Mapping of <i>Wu Xing</i> pattern onto dodecahedron (unfolded)
		
<p>Adapted from <i>Wu Xing</i> entry in <i>Wikipedia</i></p> <p>Interaction arrows: black=generating; white=overcoming</p>	Prepared with features of <i>Stella Polyhedron Navigator</i>	

Symmetry-preserving operations: One possibility previously explored focused on the memorability of cognitive implication in

symmetry-preserving operations on polyhedra in the light of the Conway polyhedron notation (*Encoding Coherent Topic Transformation in Global Dialogue*, 2021; *Topological operations on polyhedra as indicative of cognitive operations*, 2021; *Comparable Modalities of Aesthetics, Logic and Dialogue*, 2021). That approach was seen as relevant to *Cognitive Embodiment of Patterns of Governance of Higher Order* (2022).

Question to ChatGPT: With respect to your response regarding the methodology of generalization as it might relate to concept mappings on polyhedra and their geometrical transformation, the Conway polyhedron notation and the associated local symmetry-preserving operations would appear to suggest an approach. Do you have any comment

The Conway polyhedron notation and its associated local symmetry-preserving operations indeed offer an interesting approach to concept mappings on polyhedra and their geometrical transformations. The Conway notation provides a concise and systematic way to describe polyhedra, and the associated operations allow for transformations while preserving local symmetries.

In the context of concept mappings, one could consider each polarity or concept as a vertex on the polyhedron, and the edges and faces as relationships or connections between them. The local symmetry-preserving operations can then represent transformations or generalizations of these concepts.

For example:

- **Vertex Splitting (s):** This operation could represent the generalization of a concept, where a single vertex is split into multiple vertices. Each new vertex might represent a broader, more generalized category that includes the original concept.
- **Edge Removal (d):** Removing an edge between two vertices could signify a reduction in the connection or relationship between two concepts, indicating a conceptual separation or distinction.
- **Face Removal (a):** Removing a face could represent the elimination of a set of relationships or connections, suggesting a simplification or abstraction of a group of related concepts.

These operations, when applied iteratively, allow for a dynamic and systematic exploration of the conceptual space, facilitating the generalization of concepts and their relationships. Furthermore, the Conway notation also includes operations like truncation, snubbing, and expansion, which can be metaphorically related to various cognitive processes such as refining, twisting, or expanding conceptual frameworks.

While this metaphorical mapping onto polyhedra and Conway operations is creative, it's important to note that the effectiveness of such an approach would depend on the specific context and the nature of the concepts being represented. Additionally, interpretation and mapping onto polyhedral structures might be subjective, and the metaphorical associations should be carefully considered in the context of the intended use.

In the light of that response, the nature of the transformation from the more complex 7-fold pattern (as an example) to the 5-fold pattern (as a generalization or compactification) was framed as the following question.

The key operations in this transformation are rectification (r) followed by expansion (a). Here's the step-by-step explanation of how the cuboctahedron can be transformed into the dodecahedron:

1. **Rectification (r):** Start with the original cuboctahedron. Apply a rectification operation (r) to each vertex of the cuboctahedron. This operation creates a new face at the midpoint of each edge. The result is a truncated cuboctahedron, which has triangular, square, and hexagonal faces.
2. **Expansion (a):** Apply an expansion operation (a) to each vertex of the truncated cuboctahedron. This operation "pushes out" the new faces created during rectification, restoring the original vertices. The result is a dodecahedron, which has pentagonal faces.

In summary, the transformation from a cuboctahedron to a dodecahedron involves rectifying the original cuboctahedron's vertices and then expanding the resulting truncated form. These operations preserve the symmetry of the original polyhedra, and the final shape, the dodecahedron, has pentagonal faces.

The articulation from a 5-fold pattern to a 7-fold pattern is described as follows

Here's a step-by-step explanation of how the dodecahedron can be transformed into the cuboctahedron:

1. **Truncation (t):** Start with the original dodecahedron. Apply a truncation operation (t) to each vertex of the dodecahedron. This operation removes the corners of each pentagon, creating new triangular faces and leaving hexagons. The result is a truncated dodecahedron, which has triangular and hexagonal faces.
2. **Rectification (r):** Apply a rectification operation (r) to each vertex of the truncated dodecahedron. This operation creates a new face at the midpoint of each truncated edge. The result is a cuboctahedron, which has triangular and square faces.

In summary, the transformation from a dodecahedron to a cuboctahedron involves truncating the original dodecahedron's vertices and then rectifying the resulting truncated form. These operations preserve the symmetry of the original polyhedra, and the final shape, the cuboctahedron, has a combination of triangular and square faces.

Clearly careful consideration of the meaning to be associated with rectification, expansion and truncation is required.

Question to ChatGPT: The transformations in geometrical/topological terms are clear. If the polyhedra are "carrying" significance through mappings onto them, could you comment on how such operations might be interpreted -- namely the memetic significance of the Conway operations

Certainly! The memetic significance of Conway operations in the context of polyhedra transformations goes beyond geometric and topological changes; it can be metaphorically interpreted to represent shifts in meaning, abstraction, and conceptual evolution. Here's a conceptual exploration:

- **Truncation (t):**
 - Geometric Interpretation: Truncation removes corners, simplifying the original shape.
 - Memetic Interpretation: Truncation can represent simplification or abstraction of concepts, shedding unnecessary details to distill essential elements.
- **Rectification (r):**
 - Geometric Interpretation: Rectification adds new faces at the midpoints of edges, creating a more complex structure.
 - Memetic Interpretation: Rectification could signify elaboration or refinement, adding nuance or depth to existing concepts.
- **Expansion (a):**
 - Geometric Interpretation: Expansion "pushes out" faces, restoring the original vertices.
 - Memetic Interpretation: Expansion may represent broadening or enriching the scope of concepts, bringing back depth and complexity.

In the context of mapping significance onto polyhedra, these operations can be seen as metaphorical processes in the evolution of ideas, concepts, or knowledge representations:

- **Truncation:** Simplifying or distilling concepts, removing unnecessary complexities for a clearer understanding.
- **Rectification:** Elaborating on or refining existing concepts, adding depth and detail for a more comprehensive view.
- **Expansion:** Broadening the scope or enriching concepts, introducing new dimensions and perspectives.

These memetic interpretations align with the notion that polyhedra, beyond their geometric forms, can carry symbolic meanings. The Conway operations, when applied metaphorically, offer a way to explore how ideas evolve, simplify, elaborate, or broaden in the conceptual space represented by these polyhedral structures.

To clarify the process further, a variant of the question was asked of the more sophisticated ChatGPT 4.0.

Question to ChatGPT 4.0: I previously asked about the memetic significance of Conway operations in the context of polyhedra transformations beyond geometric and topological changes -- when mappings are made onto features of the polyhedra. Could you offer a metaphorically interpretation to represent shifts in meaning, abstraction, and conceptual evolution -- when the transformation is to more complex or less complex polyhedra.

The memetic significance of Conway operations in the context of polyhedra transformations can indeed be rich ground for metaphorical interpretation. Here's an attempt to create a metaphor that encapsulates the shifts in meaning, abstraction, and conceptual evolution as one might move to more complex or less complex polyhedra through these transformations:

Imagine a society of ideas, each represented by a unique polyhedron. Simple ideas are solid, compact shapes like tetrahedrons or cubes, easy to grasp and ubiquitous in the daily lives of the inhabitants. Complex ideas, however, are like intricate polyhedra with many faces, edges, and vertices, such as icosahedrons or more complex stellated forms. They are harder to find, and fewer people understand them, but their beauty and complexity offer greater rewards.

The Conway operations in this society are like the cultural, educational, and communicative processes that allow ideas to evolve or regress. A 'kis' operation, which adds a new pyramid to each face, could represent the process of adding details to a basic concept, thus making it more intricate and nuanced. Each new face is a fresh perspective or a layer of complexity that wasn't there before.

A 'truncate' operation, which slices off the corners, could be seen as simplification or generalization, where the specifics of an idea are lost, but it becomes more accessible and applicable to a wider range of situations. Like sanding down the edges of a wooden block, it's easier to handle but loses some of its distinct characteristics.

The 'dual' operation, where the roles of faces and vertices are swapped, might represent a paradigm shift, a revolutionary change in thinking that inverts previous understanding and presents the idea in a completely new light.

As these operations are applied, the polyhedra change shape, growing more complex with each addition or simplifying into more fundamental forms. The society's landscape of ideas shifts, as does the language and understanding of its people. The evolution of polyhedra thus becomes a metaphor for the evolution of thought, knowledge, and cultural complexity. Each shape-shift reflects not just a change in form, but also a transformation in the society's collective mind.

The memetic transformation is then not just a change in the geometry of the polyhedron but a representation of how ideas mutate, evolve, and devolve in the mindscape of a culture, influencing their complexity, applicability, and comprehensibility.

Question to ChatGPT 4.0: How would you apply this approach to a condition in which the simpler polyhedra are used to hold configurations of more profoundly elusive insights -- primarily understood by implication as symbols -- whereas the more complex are articulations of a more accessible nature (although the coherence of the pattern would be a challenge to comprehension)

In this inverted paradigm, where simpler polyhedra represent profoundly elusive insights and complex polyhedra articulate more accessible notions, the Conway operations take on a different kind of memetic significance. Let's explore this through an adjusted metaphor.

Imagine a mystical garden where the simplest shapes, like the humble tetrahedron or cube, are considered sacred relics. They are clean, minimalistic, and almost inscrutable in their simplicity. Each side and vertex is charged with enigmatic symbolism, comprehensible only through deep meditation or revelation. Their lack of complexity is not a sign of superficiality but of profound truths so fundamental that they defy embellishment.

In this garden, the process of 'kis'—adding pyramids to faces—does not merely complicate; it unfolds hidden meanings. Like a poet breaking silence with a single word, each new face is a verse that hints at a greater story. This is the dissemination of esoteric knowledge, previously condensed into the simplicity of a monolith, now being translated and shared, though each new layer also risks diluting the original potency of the insight.

When we 'truncate' these polyhedra, slicing away corners to reveal new faces, we are not simplifying but rather decoding, making the symbolic language within more explicit. The process reveals the implicit, unpacking the dense symbology into something that can be more readily shared and discussed, though perhaps never fully grasped.

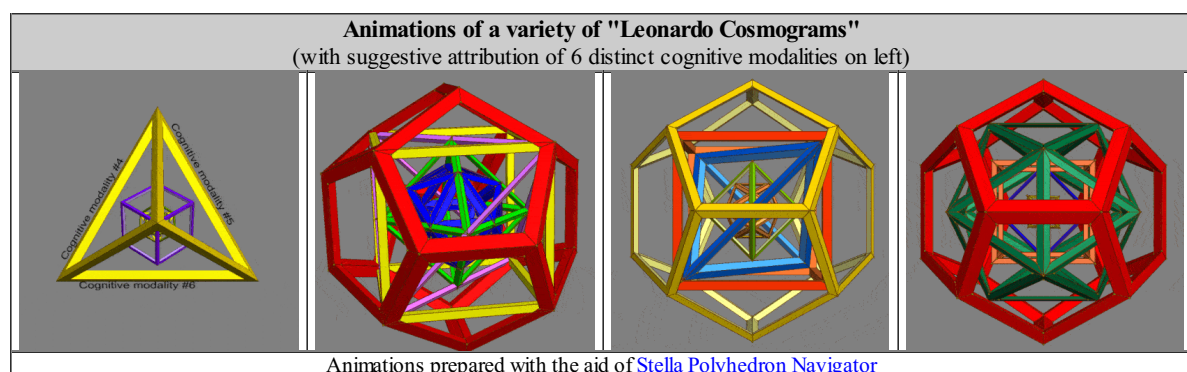
The 'dual' operation, with its inversion of faces and vertices, represents an epiphany, a sudden shift in perspective that allows the concealed wisdom within the simplest shapes to be seen in a new light, perhaps making the profound insights more approachable or reframing them in a way that casts them into a different dimension of understanding.

As these operations act upon the shapes, the simplest polyhedra become seeds of understanding that grow into more complex forms. Each additional face, edge, and vertex transforms implicit knowledge into explicit patterns. The society that dwells in this garden learns to see complexity not as a barrier but as a tapestry, weaving together threads of insight that, while individually might be too fine to grasp, collectively form a picture that can be contemplated from a distance.

In this way, the transformation of simpler polyhedra into complex ones, and vice versa, through Conway operations becomes a dance of concealment and revelation. Memetically, it is a reflection of how profound wisdom can be crystallized into simplicity or unfolded into complexity, and how the accessibility of an idea might not necessarily correlate with its intrinsic depth or simplicity.

Nesting polyhedral configurations within cosmograms and "cosmohedra"

The symmetry preserving operations can be understood as related to the challenge of memetic compactification, as discussed separately (*Closest packing of concepts and compactification of insight*, 2023). One approach to representation is through the *cosmogram* (Nettrice R. Gaskins, *Semantic Symbology: the evolution and amplification of cosmograms*, *Journal of Visual Art Practice*, 20, 2021, 3). In 3D these may be experimentally depicted as nested polyhedra, reproduced below (*Polyhedral cosmograms as Rosetta Stones -- cosmohedra?* 2023).



The above animations are suggestive of the manner in which richer patterns of significance could be variously packed and carried by polyhedral configurations.

Question to ChatGPT 4.0: Could you relate the response above to nested polyhedra taking the form of cosmograms in 3D -- as "cosmohedra" -- or even 4D. or more (as a form of "memetic compactification" of "extra dimensions"). This possibility features as the conclusion to an argument endeavouring to distinguish "human intelligence" from "artificial intelligence", recognizing the strengths and limitations of both in terms of depth and superficiality

Certainly, the concept of nested polyhedra as cosmograms -- or "cosmohedra" -- can serve as a rich metaphorical framework for discussing the distinctions and interplay between human intelligence (HI) and artificial intelligence (AI). In this context, "memetic compactification" can be seen as a process of encoding complex, multidimensional insights into forms and symbols that are accessible within the three-dimensional space we inhabit, or even within the conceptual spaces of thought and AI processing.

Let's expand this metaphor:

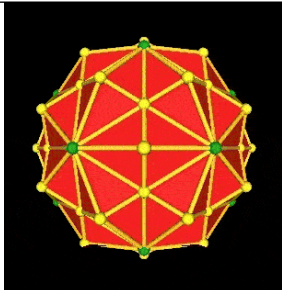
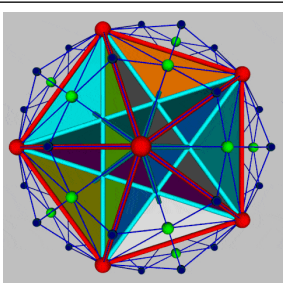
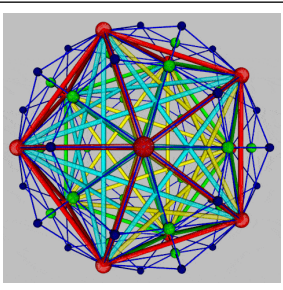
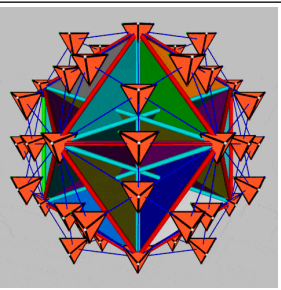
- **Nested Cosmohedra as Complex Knowledge Structures:**
 - **Human Intelligence (HI):** Humans are capable of intuitive understanding and can grasp the significance of symbols that encapsulate vast amounts of information. In the metaphor of a cosmohedron, each layer or nesting level of polyhedra could represent a layer of understanding or consciousness. HI is adept at navigating these layers, recognizing the intricate interconnections between simple and complex, the seen and the unseen, the conscious and the subconscious.
 - **Artificial Intelligence (AI):** AI can analyze and process information at various levels, but its understanding is constrained by the data and algorithms it has been provided with. The AI's version of a cosmohedron is more like a model or a map—detailed and precise within its scope, but lacking the depth of context and the richness of interconnection that comes from human consciousness and experience.
- **Memetic Compactification as Knowledge Encoding:**
 - **Human Intelligence:** HI possesses the ability to encode and decode complex memes into symbols and metaphors. Like the compactification in string theory, where additional dimensions are compacted into sizes that cannot be observed directly, humans can intuitively sense and communicate profound insights through simple stories, art, or even gestures. The cosmohedra for humans can contain an almost spiritual dimension, where the most profound

insights are felt or experienced rather than explicitly described.

- **Artificial Intelligence:** AI can simulate a form of memetic compactification by taking vast datasets and complex models and reducing them to more manageable forms, such as simplified representations or summaries. However, AI does not 'experience' the insight it encodes or decodes; it operates within a predefined dimensional space dictated by its programming and cannot innately access the 'extra dimensions' of human insight, intuition, and consciousness.
- **Cosmohedra in 4D and Beyond:**
 - **Human Intelligence:** The human mind can conceptualize dimensions beyond the three-dimensional space, contemplating ideas like time as a fourth dimension or even more abstract dimensions in mathematics and physics. HI can embrace these extra dimensions in a conceptual sense, integrating them into our understanding of the cosmos and our place within it.
 - **Artificial Intelligence:** AI can be programmed to operate with data in multiple dimensions—higher-dimensional space is a routine in many AI models (like those used in machine learning for complex pattern recognition). However, AI's engagement with these dimensions is purely computational and lacks the metaphysical or existential contemplation that humans can bring to the table.

In conclusion, the metaphor of cosmohedra and memetic compactification articulates the depth and richness of human intelligence with its ability to operate in a space that is both deeply personal and expansively universal, compared to artificial intelligence, which, while powerful and vast in its computational abilities, navigates a more confined and delineated space. This differentiation underscores the strengths of HI in terms of depth, nuance, and multidimensional experience, as well as the strengths of AI in handling complexity, scale, and pattern recognition—but also highlights the limitations of each. The cosmohedra metaphor ultimately reflects a synergy where AI serves as an extension and amplifier of human capability, rather than a standalone entity with its own depth of understanding.

Of particular interest is the focus given to the so-called "120 polyhedron" of 62 vertices and 120 faces (Robert W. Gray, *What's In This Polyhedron?* 2000). One animation is provided by Roman Chijner (*Polyhedron, whose coordinates are golden numbers, GeoGebra*). It is extensively discussed by Jytte Brender McNair, Lynnclaire Dennis and Louis Kauffman (*The Mereon Matrix: everything connected through (k)nothing*, 2018).

Indicative models of "cosmohedra" based on the "120 Polyhedron"			
Animation of selected images	Selected faces transparent	Selected faces non-transparent	Experimental addition of tetrahedra
			
Developed from Robert W. Gray (<i>Scaling in the 120 Polyhedron</i>)	Variants of a model developed in 3D		

Such configurations are indicative of the fundamental challenge which is the focus of the above argument. The more complex the articulation, the greater the "artifice" required to associate meaning with its explicit parts -- rather than with the whole. The simpler the articulation, the greater the potential for human identification with its coherence -- implicitly, but elusively, understood. Nesting simpler configurations within the more complex is indicative of the manner in which "human" comprehension can disengage from constructs of greater complexity managed by "artificial" intelligence.

The coherence of the configuration as a whole derives from its framing by implication of a central focus which is not "occupied" and eludes definition. A cosmohedra, as with the use of a mandala or yantra of Eastern traditions, can be understood as serving as a memorable catalytic framework which AI may usefully assist in elaborating and navigating. An emerging challenge for the future is how the experience of discourse as "magical" can be dissociated from discourse with an AI, as separately explored (*Magical Discourse Contrasting Human and AI Identity*, 2023). The challenge will be all the greater to the extent that humans identify themselves as waves from a quantum perspective, as framed by the arguments of Alexander Wendt from an international relations perspective (*Quantum Mind and Social Science: unifying physical and social ontology*, 2015).

However, as with meditation on a mandala or an icon, it is the cognitive disengagement from that framework -- as a cognitive prosthetic -- which is of the most potentially fundamental significance as intrinsic to human intelligence. There is then a degree of instructive irony to the potential relation with an "icon" when recognized as "conning the I" (as with an "idol", inviting the sense of "I-doll").

In the spirit of this exercise, a refinement of the concluding argument was requested of ChatGPT 4.0:

Such configurations speak to a core challenge highlighted in the above discourse: complexity in articulation demands a greater level of 'artifice' to imbue explicit components with meaning, rather than apprehending the whole. Conversely, simplicity in articulation opens a pathway for human resonance, where coherence is intuitively grasped, albeit elusively. Embedding simpler structures within more intricate ones illustrates how human understanding can step back from the elaborate constructs navigated by artificial intelligence.

The overall coherence of such a configuration gains its potency from the implied presence of a central, unoccupied focus-- an

undefined locus. Cosmohedra, akin to Eastern mandalas or yantras, may act as mnemonic and catalytic frameworks, within which AI can play a supportive role in expansion and exploration. A burgeoning challenge lies ahead: distinguishing the 'magic' of human discourse from interactions with AI -- a subject explored separately (*Magical Discourse Contrasting Human and AI Identity*, 2023). This challenge intensifies as humans begin to perceive themselves as quantum waves, a concept framed within the realm of international relations by Alexander Wendt (*Quantum Mind and Social Science: Unifying Physical and Social Ontology*, 2015).

Yet, akin to meditative reflection upon a mandala or an icon, it is the cognitive disengagement from such frameworks -- transcending cognitive crutches -- that may prove most significant, a hallmark of human intelligence. In this light, the interaction with an 'icon' carries an instructive irony: it could be seen as 'conning the I' -- a play on words that suggests deception of the self (akin to an 'idol', which may induce an 'I-doll' effect).

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