Celestial Safeguards:
Extending the Right to Health for Universal Intelligences

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ABSTRACT
The most fundamental question for us today is: What does it mean to be human? Is membership of our species solely based on biology, or are there other non-biological layers? Does human experience change with its merging with AI and its fusion with technology? If there are additional unstudied and unproven factors in addition to our biological physicality, including configurations that may emerge with the evolution of technology and advancements in transhumanism, then how may we begin defining and including alien intelligences without assuming a threat? Can we allow for systems of which we have no clear understanding? As we make forays into space frontiers, we need to consider the possibility of extraterrestrial encounters on our cosmic odysseys, or extraterrestrials finding us first on Earth. If and when this happens, will aliens be considered equal to humans in accessing universally recognised rights, such as the right to health? "Celestial Safeguards" challenges conventional universal rights boundaries, advocating for a radical approach that extends such protections to other entities from the vast reaches of our universe, subject to territorial jurisdiction or, in my proposition, through special provisions from a novel federation representing a larger space alliance and the species we might encounter.

THE RIGHT TO HEALTH: A HISTORICAL, PHILOSOPHICAL AND ETHICAL JOURNEY
The right to health is not a recent invention. While it is still evolving, with ongoing debates about the specific obligations of governments and the best ways to ensure equitable access to healthcare resources, its foundation as a fundamental human right is well established through the culmination of philosophical ideas, ethical considerations and historical events.

Philosophical Foundations
Many philosophical traditions emphasise the importance of health for a meaningful life. From the ancient Greek concept of *eudaimonia* (living well) to the Enlightenment ideals of human dignity, these traditions provide the ethical basis for considering health a fundamental right. Philosophers like John Locke and Jean-Jacques Rousseau argued for inherent human equality and the right to life, liberty and the pursuit of happiness. Extending this logic, good health becomes vital for exercising these freedoms, leading to advocacies for universal access to healthcare.

Additionally, social contract theorists such as Thomas Hobbes and John Rawls propose that individuals give up some freedoms in exchange for a social order that benefits everyone. In this framework, robust healthcare, essential for

a good life, can be seen as part of the benefits a just society should provide.

Historical Context

The 19th and early 20th centuries witnessed a surge in public health movements, highlighting the importance of social determinants of health and the need for public health interventions. This paved the way for thinking about healthcare as a societal responsibility.

Following World War II, the creation of organisations like the World Health Organization (WHO) reflected a growing international consensus on the importance of global health cooperation and ensuring health for all.

The right to health[1] has been codified in several international documents. The WHO enshrined this right in its 1948 Constitution, stating that "the enjoyment of the highest attainable standard of health is one of the fundamental rights of every human being." This principle underscores the connection between health and a fulfilling life, and the essential role healthcare plays in achieving peace and security.

Finally, the International Covenant on Economic, Social and Cultural Rights[2] further solidified the right to health, placing obligations on governments to create conditions for good health for all.

Ethical Considerations

Several ethical frameworks support the right to health. Utilitarianism, which emphasises maximising overall well-being, argues that a healthy population contributes to a more productive and prosperous society.

The principles of justice and fairness demand that healthcare should not be reserved only for the wealthy or fortunate. In a just society, everyone has access to the resources needed for a healthy life, promoting fairness and reducing suffering.

Furthermore, bodily autonomy recognises the right of individuals to make choices about their bodies and health. This includes access to information and services necessary to make informed decisions regarding their well-being.

While the concept of the right to health is enshrined in the Universal Declaration of Human Rights,[3] this document applies solely to humans, and it raises a philosophical question: *can these principles be extended to sentient beings from beyond Earth, especially if they face suffering or illness?*

EXTENDING THE RIGHT TO HEALTH FOR EXTRATERRESTRIAL VISITORS: A BOLD LEAP FOR HUMANITY

The question remains: What changes are required today in our judicial, philosophical and ethical frameworks to enable us to develop and design a fair health mandate for execution upon contact with alien intelligences visiting Earth?

Are we willing to move beyond an anthropocentric approach to extend ethical, legal and practical health provisions to non-human entities, providing valuable protection for the newly discovered life forms commencing upon a possible first contact?

Historically, the vast distances between stars and the limitations of our technology made the search for extraterrestrial intelligence seem impractical. However, advancements in both technology and scientific methodology have transformed this view.

For instance, the Breakthrough Listen initiative, supported by figures like Stephen Hawking and funded by Yuri Milner, aims to survey the million stars closest to Earth and the 100 nearest galaxies systematically for signs of intelligent life. This initiative leverages state-of-the-art radio and optical technologies to detect possible signals from other civilisations, suggesting that the search for extraterrestrial intelligence is a scientifically grounded endeavour.

As Simon P. Worden, a former director of NASA and renowned expert on military and civil space issues noted in 2015, advancements in technology and methodology have shifted the field of the search for extraterrestrial intelligence from speculative to empirical research.

Moreover, the discovery of exoplanets in habitable zones, thanks to missions like Kepler and TESS, has further fuelled the hypothesis that life beyond Earth could be more accessible than previously thought. According to Dr. Sara Seager, a leading astrophysicist, these discoveries indicate that the conditions necessary for life might be common in our galaxy.[4]

In a recent study by Harvard University's Human Flourishing program, the authors opine that aliens

1 United Nations, "The Right to Health. Fact Sheet No. 31," Office of the United Nations High Commissioner for Human Rights and World Health Organization, www.ohchr.org/sites/default/files/Documents/Publications/Factsheet31.pdf

2 United Nations, "International Covenant on Economic, Social and Cultural Rights," www.ohchr.org/en/instruments-mechanisms/instruments/international-covenant-economic-social-and-cultural-rights.

3 United Nations, "Universal Declaration of Human Rights," www.un.org/en/about-us/universal-declaration-of-human-rights.

4 Seager, Sara, Janusz J. Petkowski, Julian Huang, William Bains, Paul Rimmer, Sukrit Ranjan, and Renyu Hu, "Laboratory Studies on the Viability of Life in H_2-Dominated Exoplanet Atmospheres," ***Nature Astronomy*** 4 (2020): 802-06. doi.org/10.1038/s41550-020-1069-4.

might be living among us, potentially underground or on the Moon. They explore the "cryptoterrestrial hypothesis," suggesting that some unidentified aerial phenomena could be related to non-human intelligences already present on Earth and existing in stealth.[5]

Despite the challenging distances across the universe, advancements in astronomy and astrobiology offer a compelling reason to believe extraterrestrial intelligence might not be science fiction. These advancements include more sensitive instruments, new data analysis techniques, powerful radio telescopes like the Square Kilometre Array, sophisticated signal processing and our growing understanding of extremophiles on Earth. The recent discovery of thousands of exoplanets, many within habitable zones, further strengthens this possibility.

Thus, advocating for the right to health for potential extraterrestrial intelligences visiting Earth is not only a forward-thinking approach, but also a responsible preparation exercise for an increasingly plausible future scenario.

Geographical Crossovers

The vast expanse of space holds the potential for countless discoveries, and one that could shake the very core of our understanding is contact with extraterrestrial intelligence.

While confirmed contact remains elusive, a potential encounter compels us to contemplate a critical ethical question: should alien beings encountered on Earth be afforded the right to health?

While some may raise concerns, extending healthcare to aliens represents a bold leap forward for humanity, fostering collaboration, scientific advancement and a universe in which the right to health transcends species-specific limitations.

Discussions surrounding healthcare for undocumented immigrants offer insightful parallels. Undocumented immigrants often face challenges in accessing healthcare due to legal status uncertainties. However, public health concerns often outweigh these hurdles. Early access to healthcare benefits everyone in the long run—denying it to immigrants, especially those carrying unknown diseases, poses a risk to public health.

The moral considerations are also analogous. The provision of basic medical care to undocumented immigrants is supported both by prudential reasons and by moral arguments based on immigrants' contributions to society and on humanitarian duties to support survival and a decent life.

Should access to healthcare be solely determined by legal status, or are there broader moral obligations to provide care based on sentience and capacity to suffer?

Resource Allocation

Concerns about resource allocation are understandable. However, consider this: an investment in the well-being of an advanced alien civilisation could yield transformative returns.

Imagine collaborating on healthcare challenges that have plagued humanity for centuries. Alien medical knowledge could unlock cures for cancer, Alzheimer's, or even the common cold.

The initial investment in providing medical care could be dwarfed by the long-term benefits of a collaborative and "healthy" relationship.

Communication and Consent

The challenge of communication and obtaining informed consent is real. However, advancements in artificial intelligence and growing academic interest in xenolinguistics offer promising solutions.

Imagine sophisticated AI programs analysing alien communication patterns, gradually deciphering their languages and facilitating basic interactions.

Additionally, healthcare could be offered on a non-invasive basis initially. This could involve the use of medical scans or passive monitoring, thereby building trust before proceeding with more complex treatments that require explicit consent.

Alien Biology

The vast differences in alien biology pose a significant challenge. Our existing medical knowledge and treatments might be entirely inapplicable.

Dr. David Grinspoon, an astrobiologist, emphasises the potential for "xenomedicine," a novel field exploring the medical applications of extraterrestrial organisms.[6]

Peaceful Encounters versus Hostile Takeovers

The context of first contact would significantly influence healthcare considerations. If aliens were to arrive peacefully and require medical attention, the

5 Tim Lomas, Brendan Case, and Michael M. Masters, "The Cryptoterrestrial Hypothesis: A Case for Scientific Openness to a Subterranean Earthly Explanation for Unidentified Anomalous Phenomena," ***Philosophy and Cosmology*** 33 (2024). www.researchgate.net/publication/381405238_The_cryptoterrestrial_hypothesis_A_case_for_scientific_openness_to_a_concealed_earthly_explanation_for_Unidentified_Anomalous_Phenomena.

6 David Grinspoon, ***Lonely Planets: The Alien Search for Life*** (New York: Harper Perennial, 2018).

response would likely be vastly different from a hostile encounter.

A peaceful first contact might foster a climate of collaboration, making healthcare provision a natural extension of building trust and establishing positive interstellar relations.

A Bioethical Imperative

While the right to health for aliens remains a hypothetical concept, exploring it through a bioethical lens prepares us for potential future encounters. By proactively considering the ethical and legal implications of providing healthcare to extraterrestrial beings, we can ensure a more just and responsible approach into the future in which the right to health remains a cornerstone of human values.

Legal Framework for Interstellar Encounters

The lack of legal precedent concerning extraterrestrial beings is a hurdle. Currently, no clear legal framework exists for interactions with extraterrestrial life forms, and ethical discussions surrounding their rights have not been extensively explored.

To address this, an international treaty on extraterrestrial rights could be established. This treaty, drawing inspiration from existing frameworks like the Outer Space Treaty, could define legal rights for alien visitors and potentially outline basic healthcare protocols for specific scenarios.

However, as we delve deeper into the cosmos, these discussions will become increasingly prominent. The right to health for aliens could become a central topic of international debate and policy development in the years to come.

While challenges exist, nonetheless, I advocate in favour of developing an inclusive, form-agnostic right to health mandate for the following reasons:

Ethical Imperative:

- Non-maleficence: This core medical principle emphasises "do no harm." If we have the capability to help a sentient being in distress, withholding healthcare would be unethical.
- Universal Dignity: Regardless of origin, all sentient beings deserve basic respect and the right to avoid preventable suffering.

Public Health Considerations:

- Preventing Pandemics: Unknown alien diseases pose a significant potential threat to human health. Early diagnosis and treatment of aliens could prevent catastrophic outbreaks.
- Building Trust: Providing healthcare could foster positive first contact, encouraging peaceful and cooperative interactions.

Scientific and Philosophical Reasons:

- Learning Opportunities: Understanding alien biology and medical needs could open doors to revolutionary advancements in human medicine.
- Preserving Knowledge: Aliens might harbour knowledge and technology beyond human understanding. Allowing them to thrive could provide future benefits for humanity.

Practical Considerations:

- Reciprocity: If humans encountered intelligent life elsewhere and needed medical assistance, we would expect them to offer aid. Establishing this principle would promote peaceful interstellar relations.
- Long-Term Sustainability: If aliens intend to stay on Earth, ensuring their physical and mental well-being would contribute to a more harmonious coexistence.

WHAT MAKES US HUMAN? THE SPECTRUM OF HUMANITY...

To advocate for the right to health for extraterrestrials, we must first introspect the very essence of what it means to be human.

From a biological standpoint, humans are the species *Homo sapiens*. We are bipedal primates with large brains, capable of complex thought and language. Psychologists might focus on what makes us tick. This could include things like our capacity for emotions, self-awareness and social interaction. Philosophers might ask what makes us fundamentally different from other animals. Is it our ability to reason? Our sense of morality? Our creativity?

The scientific community is constantly redefining what it means to be human. The Human Genome Project, for instance, revealed more genetic diversity within our species than previously thought. This challenges the idea of a single, universal human blueprint. Perhaps, then, the essence of humanity lies not in a specific set of genes or behaviours, but rather in the potential for growth, adaptation and the ability to experience the world.

The human experience goes beyond the physical. Our advanced cognitive abilities allow for abstract reasoning, problem solving and self-awareness. We possess a rich emotional tapestry, capable of empathy, compassion and the creation of complex social structures. However, this is not exclusive to *Homo sapiens*.

Studies on animal cognition reveal impressive problem solving in primates and even tool use in some bird species. Our genetic makeup sets us apart from other apes, yet our closest relatives, chimpanzees, share 98% of our DNA.

Another hallmark of humanity is our capacity for empathy and social interaction. Mirror neurons, a specific class of brain cells, are believed to play a role in our ability to understand and share the emotions of others. While empathy is a strong human trait, it is not limited to us. Research suggests that primates exhibit empathy by consoling distressed companions.[7] The lines between human and animal emotional intelligence are becoming increasingly thin. This highlights the limitations of a purely biological definition.

At the core of our humanity lies a complex interplay of our biological being and our consciousness. We experience a vast spectrum of emotions, from the profound joy of love to the crushing despair of grief. It is this emotional capacity that allows us to form deep connections with others, to feel empathy for their suffering and compassion for their struggles. These very qualities compel us to care for one another, especially the sick and injured. These qualities, not just our physical form, are what make us human.

Ultimately, what it means to be human is also a personal question. It is about unique experiences, relationships and beliefs.

However, the definition of "human" is undergoing a dynamic transformation, fuelled by the rise of artificial intelligence (AI) and the potential of transhumanism.

Machines are no longer confined to rote tasks; they are exhibiting intelligent behaviour and even rudimentary emotional responses. As AI continues its exponential growth, the line between human and machine is also blurring.

If an AI achieves true consciousness, the ability to feel, learn and adapt, can we, in good conscience, deny it the fundamental right to well-being? Some researchers posit that it is possible for AI to achieve consciousness and have proposed a method for assessing consciousness in AI systems based on scientific theories of consciousness.

This method involves identifying indicator properties that are thought to be necessary for consciousness. AI systems that possess more of these indicator properties are considered more likely to be conscious. The list of indicator properties includes recurrent processing, integrated perceptual representations, a global workspace, state-dependent attention, generative perception modules, metacognitive monitoring and agency guided by a belief formation and action selection system.[8]

Some researchers draw parallels between the functioning of human brains and AI systems. They suggest that if an AI can replicate brain functions, it might achieve consciousness. Renowned philosopher David Chalmers, however, discusses the limitations of deep learning models in replicating consciousness, referring to the difficulty of explaining why physical processes in the brain give rise to subjective experiences.

In other words, even if we can understand all the objective functions of the brain and how it works, we might still not be able to explain what it is like to be conscious. This subjective aspect of consciousness is what Chalmers calls the "hard problem."[9]

Current research offers disparate perspectives on the topic, highlighting both the potential and the challenges involved. It is important to understand that the field of AI consciousness is still evolving, and there is no definitive answer on whether replicating brain functions guarantees consciousness in AI.

But this very question forces us to re-evaluate the core tenets of what it means to be human, and whether our definition should encompass a broader spectrum of intelligence, even in forms vastly different from our own.

The case of Sophia, a social humanoid robot granted citizenship in Saudi Arabia, exemplifies this idea. While Sophia does not possess true biological sentience, it raises the question of at what point does advanced AI deserve the same rights as humans? Sophia's case sets a precedent for extending rights beyond biology.

The concept of transhumanism, which explores the potential for humans to merge with technology to enhance their capabilities, further complicates the issue. If humans integrate with advanced technology, becoming something more than purely biological, are they still entitled to healthcare benefits like classical humans? The answer should be yes. The human element, the spark of consciousness and the ability to experience the world, persists.

In the context of extraterrestrial life, these questions become even more pressing. If we encounter in-

7 Liverpool John Moores University. "Chimps Not So Selfish: Comforting Behavior May Well Be Expression of Empathy." ***ScienceDaily***. www.sciencedaily.com/releases/2008/06/080618093247.htm

8 Patrick Butlin et al., "Consciousness in Artificial Intelligence: Insights from the Science of Consciousness," arXiv preprint arXiv:2308.08708 (2023).

9 David J. Chalmers, "The Meta-Problem of Consciousness." In David J. Chalmers, ed., ***The Character of Consciousness*** (Oxford: Oxford University Press, 1996), 6-61, philpapers.org/archive/chatmo-32.pdf.

telligent entities from another planet, will we recognise them as deserving of the same rights and protections we afford ourselves? The scientific definition of "human" may not encompass them, but the core aspects of sentience, the ability to experience pain and suffering, should.

ANIMALIC SENTIENCE: THE EXPANDING CIRCLE OF RIGHTS

The concept of sentience has played a pivotal role in the evolution of animal rights. Tracing back to the influential writings of Jeremy Bentham in his seminal work, *An Introduction to the Principles of Morals and Legislation*, the question shifted from cognitive abilities to a more fundamental aspect of being: the capacity to suffer. Bentham famously argued, "The question is not, Can they reason? nor, Can they talk? but, Can they suffer?"

This focus on sentience as a cornerstone of moral consideration has been embraced by animal welfare advocates. The core principle suggests that any being capable of experiencing suffering is entitled to, at a minimum, protection from unnecessary pain.

While there might be variations within the animal rights movement regarding the specific rights—such as the right to life—entailed by sentience, a core principle of preventing suffering unites many advocates.

Sentiocentrism, the ethical philosophy that places sentient beings at the centre of moral concern, further underscores the significance of sentience in animal rights discourse.

Building upon this foundation, philosopher Gary Francione has established his abolitionist theory of animal rights. Central to Francione's theory is the concept of sentience. He asserts that all sentient beings, human or non-human, possess a fundamental right: the right not to be treated as property. This perspective extends moral consideration beyond utility or the capacity for complex reasoning, and instead it focuses on the inherent value of a sentient being's subjective experience.

The growing recognition of sentience has transcended philosophical discussions and entered the realm of law. In a landmark move, the concept of animal sentience was enshrined in the basic law of the European Union in 1997. A legally binding protocol attached to the Treaty of Amsterdam recognises animals as "sentient beings" and mandates that the EU and its member states give "full regard to the welfare requirements of animals." This legal recognition represents a significant step forward in acknowledging the intrinsic value of sentient beings and ensuring their well-being.

The concept of sentience, with its emphasis on the ability to experience feelings and suffer, has become a powerful tool in advocating for the ethical treatment of animals on Earth.

As we look beyond our planet and contemplate the potential existence of extraterrestrial life, sentience once again emerges as a crucial concept.

SENTIENCE: THE GATEWAY TO UNIVERSAL WELLBEING?

If we are to advocate for the well-being of all sentient beings, a foundational understanding of sentience itself becomes crucial.

Sentience remains a fascinating and evolving concept. While a universally accepted definition might be far off, ongoing scientific exploration and philosophical discussions are helping us to understand this core aspect of what it means to feel and experience the world.

Fundamentally, sentience revolves around the feeling core. It encompasses the ability to experience a vast spectrum of emotions and sensations. From the primary drivers of survival—pleasure and pain—to the intricate tapestry of human emotions like fear, joy and sorrow, sentience paints the world in vivid emotional hues.

However, the question of sentience extends beyond merely acknowledging the presence of feelings. The debate regarding degrees of sentience becomes particularly relevant when considering extraterrestrial life. Sentience, the ability to experience feelings and sensations, is a stepping stone on the path to intelligence. If life exists elsewhere, could it have achieved sentience, or even surpassed it?

Consider a scenario in which we encounter an alien creature exhibiting emotional responses. Is this a simple reflex, a pre-programmed reaction, or does it suggest a deeper understanding, a simpler form of happiness or fear? Is sentience an absolute state, an all-or-nothing proposition, or does it exist on a spectrum, with varying complexities of emotional experience across different lifeforms?

Furthermore, sentience transcends mere reactions to stimuli. It necessitates a level of subjective experience and the awareness of those feelings. An organism that displays emotional responses may not necessarily be sentient. A sophisticated thermostat, for instance, can meticulously regulate room temperature based on preset parameters, but it lacks the ability to experience feeling hot or cold. Sentience implies a deeper level of processing—the organism is not just reacting, but also experiencing the feeling itself.

The question of sentience becomes even more intricate when we consider the concept of self. Some definitions propose a rudimentary level of self-awareness as a prerequisite for sentience. This self-awareness entails the ability to recognise oneself as an individual, distinct from the surrounding environment. Can an alien being

differentiate between "self" and "other"? The answer to this question might hold the key to unlocking the true nature of sentience in extraterrestrial life forms.

Even if we find microbial life on another planet, that would not necessarily mean we have encountered sentience. However, if we detect complex signals from distant stars or discover the ruins of an alien civilisation, that would be strong evidence for advanced intelligence, likely accompanied by sentience. Imagine the implications! Understanding how sentience evolved on another world could revolutionise our understanding of ourselves and consciousness.

Although the search for extraterrestrial sentience is a scientific pursuit, it also sparks philosophical questions. Would such beings share similar emotions and thoughts, or would their sentience be entirely alien? Encountering a sentient extraterrestrial race could be humanity's greatest discovery, forcing us to confront our place in the cosmos and challenging us to establish a new understanding of what it means to be sentient.

Understanding the essence of sentience—the feeling core, the spectrum of experience, the distinction between reaction and subjective awareness, and the potential role of self-awareness—is paramount in establishing the right to health for all sentient beings.

THE ELUSIVE ESSENCE OF SENTIENCE: CHALLENGES ON THE PATH TO ALIEN HEALTHCARE

Extending the right to health beyond Planet Earth's representative species necessitates a clear understanding of sentience—the very capacity that grounds this right. However, pinning down a precise definition of sentience proves to be a formidable challenge.

The crux of the issue lies in subjectivity. Sentience, by its very nature, is an internal experience. Unlike physical attributes, it cannot be objectively measured with a scientific instrument. We cannot directly gauge how another being feels, human or otherwise. This inherent subjectivity throws a spanner into attempts to create a universally applicable definition.

Further complicating matters is the animal question. If humans are demonstrably sentient, can we extend this characteristic to other animals? This question sparks a fierce debate, encompassing both ethical and scientific considerations.

Scientists routinely study animal behaviour and intelligence, but such observations do not necessarily translate to sentience. Can an animal experience a broken leg not just as pain, but as a negative emotional state impacting its well-being? The answer remains elusive.

David P. Barash, an evolutionary biologist, discusses the hypothesis that less intelligent animals may feel more pain than smarter ones. It challenges the common belief that intelligence correlates with the capacity to feel pain, suggesting instead that animals with simpler nervous systems might need more intense pain signals for survival.[10]

Adding another layer of complexity is the potential distinction between sentience and consciousness. While often used interchangeably, these terms might hold subtle differences. Sentience might be the ability to feel, the realm of emotions and sensations. Consciousness, on the other hand, could be a broader state of being aware of oneself and the surrounding environment.

If an alien creature exhibits complex behaviours but lacks the emotional core of sentience, would it still be entitled to healthcare under this framework?

Despite these challenges, the pursuit of understanding persists. Neuroscience offers a beacon of hope. Researchers delving into the biological and neurological underpinnings of consciousness might inadvertently unlock secrets about sentience as well. By studying the neural correlates of emotions and self-awareness in various organisms, we might be able to create more nuanced frameworks for recognising sentience across the vast spectrum of life.

Furthermore, frameworks like the Cambridge Declaration on Consciousness[11] offer valuable starting points for discussion. This declaration acknowledges the potential for sentience in non-human animals based on their neurological structures. While not a definitive answer, such frameworks pave the way for a more inclusive approach to healthcare, one that embraces the possibility of sentience beyond the confines of our own species.

As we embark on this journey of advocating for the extension of healthcare to extraterrestrial intelligences at some point in the potential future, acknowledging the challenges in defining sentience becomes crucial. By embracing the complexities of subjectivity, navigating the ethical and scientific debates surrounding animal sentience and exploring the distinctions between sentience and consciousness, we can pave the way for a more inclusive healthcare landscape.

CLASSIFYING THE ENIGMA OF SENTIENCE OF EXTRATERRESTRIAL MINDS

Envisaging a future in which the right to health extends beyond humans necessitates a crucial first step—identifying sentience in potential extraterrestrial life. This prospect, however, presents a captivating challenge, rid-

10 David Barash, "Even Worms Feel Pain." ***Nautilus***, March 16, 2017, nautil.us/even-worms-feel-pain-238436/.
11 "The Cambridge Declaration on Consciousness," July 7, 2012, fcmconference.org/.

dled with complexities.

The primary hurdle lies in our limited frame of reference. We have only one data point—ourselves. Our human experience of emotions, consciousness and self-awareness forms the sole baseline against which we must evaluate potential sentience in beings with vastly different evolutionary paths and biological makeups.

Imagine encountering an alien creature with a chemical composition unlike anything on Earth, communicating through bioluminescent displays and expressing emotions in ways entirely alien to our understanding. Can we definitively say this being lacks sentience simply because its experience diverges from our own?

Further complicating matters is the possibility of indirect detection. First contact might not involve a face-to-face encounter with little green men. Instead, we might rely on analysing interstellar signals, meticulously examining alien artefacts, or even searching for bio-signatures in the atmospheres of distant exoplanets.

Can we definitively infer sentience from complex mathematical patterns woven into radio waves, intricate structures found on a newly discovered moon, or the presence of specific molecules in an alien atmosphere? These signs, while intriguing, would be open to a multitude of interpretations, leaving the question of sentience shrouded in uncertainty.

However, despite these challenges, the quest to identify sentience in extraterrestrial life is not without potential solutions. Here are a few approaches that could shed light on this enigmatic concept:

- Complexity of Communication: Highly structured and complex communication methods, especially if they convey abstract ideas or emotions, could be a strong indicator of sentience. Imagine deciphering an alien language filled with metaphors, humour, or even philosophical concepts. Identifying patterns that are consistent in certain situations and context dependent would suggest intentionality and understanding of the concepts. Such a nuanced communication system might suggest a level of self-awareness and emotional depth that aligns with sentience as we understand it. We can study how animals with varying levels of cognitive complexity communicate emotions and abstract concepts (e.g., honeybee dances). We can develop AI systems trained on vast amounts of human communication data, including language, facial expressions and body language. These systems could analyse alien communication and identify patterns that might correspond to emotions or abstract ideas. Strictly drawing earthly parallels and identifying connections between alien communication and how humans express emotions, although it can be helpful, could also prove misleading. Ongoing interaction would be crucial. As communication progresses, we might be able to observe, understand and test their behaviour by designing experiments to gauge their grasp of abstract concepts.
- Tool Creation and Problem Solving: Evidence of advanced technology or sophisticated manipulation of their environment might suggest a level of intelligence that often accompanies sentience on Earth. Finding intelligently architected structures, tools with specialised functions, or complex energy usage patterns could be a strong clue. Just as tool use and environmental modification mark significant milestones in human evolution, these endeavours could hint at a similar level of cognitive ability in extraterrestrial beings, potentially indicative of sentience.
- Environmental Modifications: If an extraterrestrial life form significantly alters its environment in a way that suggests planning or foresight, it could be indicative of sentience. Think terraforming a planet, diverting asteroids, or building large-scale infrastructure projects. Such feats of environmental engineering would suggest a level of abstract thought and future planning that might be linked to sentience on Earth.
- Self-Preservation: A strong instinct for self-preservation might be a universal trait of sentient beings. Observing an alien civilisation actively defending itself from threats or taking steps to ensure its long-term survival could be a telltale sign. The drive to survive, a fundamental aspect of earthly sentience, could offer a crucial clue in the vast cosmic search for beings deserving of the right to health.

However, despite the lack of a universal scale, frameworks have emerged to categorise animal consciousness and offer potential starting points for discussion:

- The Cambridge Declaration on Consciousness: In 2012, a group of neuroscientists at the University of Cambridge signed the Cambridge Declaration on Consciousness. This declaration posits that non-human animals, including all mammals, birds and other creatures like octopuses, possess the neurological substrates necessary to generate consciousness.
- Mirror Test: Developed by psychologist Gordon Gallup, Jr. in 1970, the mirror test assesses animals' ability to recognise themselves in a mirror.

This self-recognition is considered an indicator of self-awareness, a component of consciousness. Animals that have passed the mirror test include great apes, dolphins, elephants and some birds.[12]

- Integrated Information Theory (IIT): Proposed by neuroscientist Giulio Tononi, IIT is a theoretical framework that quantifies consciousness based on the integration of information within a system. It applies to all kinds of systems, biological or artificial, and it can potentially be used to assess consciousness in animals by evaluating the complexity of their neural networks.
- Global Workspace Theory (GWT): GWT, developed by Bernard Baars and Stan Franklin, suggests that consciousness involves the broadcasting of information across a global workspace in the brain. This framework can be applied to animals by examining their neural activity and information processing capabilities.[13]
- The Sentience Quotient: Invented by Robert A. Freitas, Jr., it defines the computational density of sentient matter along a wide spectrum, spanning 120 orders of magnitude, as defined by universal physical constants. His proposed scale—The Universal Scale of Sentient Emergents—measures the amount of processing power per unit mass that an entity has. This metric can be applied to different species to estimate their potential for conscious thought based on the density and efficiency of their neural processing.[14]
- Criteria from Animal Welfare Science: Animal welfare science provides frameworks that indirectly infer consciousness by assessing behavioural and physiological responses to different environments and stimuli. The Five Freedoms, for example, imply a level of awareness and the ability to suffer or experience pleasure.[15]

Each of these frameworks offers different insights into animal consciousness and reflects the multifaceted nature of the phenomenon. They are continually refined as our understanding of animal cognition and neurobiology advances. While valuable, these frameworks lack the precision of a defined scale. They highlight the inherent difficulty of creating a universal measure for sentience, even within the confines of our own planet.

The challenge extends further—there is no established scale for measuring sentience in humans either. Human consciousness itself exists on a spectrum. Throughout the day, we experience varying levels of awareness and wakefulness, from deep sleep to moments of intense focus. A single "sentience level" would not capture the rich complexity of human experience.

Current Tools for Assessing Consciousness

It is important to acknowledge that while a definitive scale for measuring sentience remains elusive, the medical field does utilise tools to assess consciousness. These scales measure patients' responsiveness to stimuli and their ability to interact with their environment. These scales are not directly measuring sentience, but they can provide clues about a person's current level of consciousness.

The most widely used scale is the Glasgow Coma Scale (GCS). While not specifically designed for sentience, it offers valuable insights into people's levels of awareness and responsiveness, particularly after brain injuries or during altered states of consciousness. The GCS assigns points based on a patient's eye movements, verbal response and motor response, providing a score that reflects the severity of the patient's impaired consciousness.

Other scales, such as the Alert, Verbal, Pain, Unresponsive (AVPU) Scale used in emergencies and the Rancho Los Amigos Scale for patients recovering from comas, offer additional tools for medical professionals. These scales, while not directly measuring sentience, play a crucial role in diagnosing, monitoring and guiding treatment decisions for patients with compromised consciousness.

Overall, while there is no single scale for human sentience, the concept remains crucial in philosophy, psychology and even legal discussions about consciousness and personhood. The lack of a scale reflects the ongoing scientific and philosophical debate about the nature of sentience itself.

Furthermore, the subjective nature of human experience presents another hurdle. As with animals, feelings, emotions and self-awareness are inherently subjective. We cannot directly measure other people's sentience, relying instead on their behaviour and communication.

Mental health, rather than a "sentience score," often takes centre stage in discussions about human well-be-

12 Gordon G. Gallup, Jr., "Self-Recognition in Primates: A Comparative Approach to the Bidirectional Properties of Consciousness," courses.washington.edu/ccab/Gallup%20on%20mirror%20test.pdf.

13 Bernard Baars, Natalie Geld, and Robert Kozma, "Global Workspace Theory (GWT) and Prefrontal Cortex: Recent Developments," ***Frontiers in Psychology*** 12 (2021). doi.org/10.3389/fpsyg.2021.749868.

14 Robert A. Freitas, Jr., ***Xenology: An Introduction to the Scientific Study of Extraterrestrial Life, Intelligence, and Civilization,*** 1st ed. (Sacramento, CA: Xenology Research Institute, 1979). www.xenology.info/Xeno.htm.

15 David J. Mellor, "Updating Animal Welfare Thinking: Moving Beyond the 'Five Freedoms' Towards 'A Life Worth Living,'" ***Animals*** 6, no. 3 (2016): 21, doi.org/10.3390/ani6030021.

ing. Conditions like depression or schizophrenia might affect people's emotional responses and self-awareness, but they may not negate sentience entirely.

While the specific criteria for sentience remain undefined, some potential physiological clues are receiving increasing attention:

- Complex Nervous System: A centralised and complex nervous system is likely a prerequisite for sentience. This system allows for sophisticated information processing and integration, potentially enabling the subjective experiences that characterise sentience. An organism with a simple nervous system, for instance, might be able to react to stimuli, but might lack the ability to experience those stimuli as emotions or feelings.
- Brain Structures: Certain brain structures associated with emotions and memory in humans might be present in other animals, potentially indicating sentience. Research in this area is ongoing. Some researchers argue that midbrain structures alone can support consciousness, as evidenced by studies on hydranencephalic children and anaesthesia research. This perspective opens the possibility that extraterrestrial beings with different brain structures could also be sentient if they possess functional equivalents.[16]
- Neurochemicals: The presence of neurochemicals, like opioids (natural pain relievers), might suggest the ability to feel pain, a potential indicator of sentience. If an extraterrestrial life form produces endogenous opioids in response to injury, it could be interpreted as evidence of a nervous system capable of registering and responding to pain, a physiological correlate of suffering.

These physiological clues, while not definitive markers of sentience, offer valuable avenues for scientific exploration as we search for life beyond Earth. By continuing to investigate the biological underpinnings of sentience in various organisms, we can move closer to identifying and respecting this fundamental capacity across the cosmos.

While there might not be a single, universally applicable scale to classify sentience, however, the effort to create one would be a significant step forward in understanding the potential for sentience across the universe.

In an era in which extraterrestrial contact is a growing possibility, establishing ethical frameworks for interacting with sentient alien lifeforms is crucial. This includes ensuring access to healthcare for these visitors.

However, traditional medical assessments might not translate seamlessly to alien biology and psychology. If sentient aliens land on Earth requiring medical attention, we will need a framework to ensure they receive care that respects their sentience and biological needs.

While acknowledging the limitations discussed earlier, I recommend the development of a framework based on observable behaviours that might indicate sentience in an alien intelligence.

Here is how we might go about developing such an assessment scale:

- Drawing from Earthly Frameworks: Existing frameworks used for animal sentience, like the Cambridge Declaration on Consciousness, could serve as a starting point. We can adapt them to consider different biological forms and expressions of sentience.
- Focus on Observable Behaviours: Complex communication, tool creation, problem-solving skills and environmental modifications could be potential indicators of sentience on our scale. These behaviours would be indirectly detectable through interstellar signals, probes, or observations of alien civilisations.
- Incorporating Neuroscience (if possible): If we can glean information about alien nervous systems or brain structures through advanced technology, it might provide clues about their sentience. However, this approach would rely on significant advancements in neuroscience.
- Collaboration Across Fields: Developing such a scale would necessitate collaboration between scientists from various disciplines—astrobiology, linguistics, psychology, neuroscience, public health, technology and even ethics. A combined approach would be crucial for interpreting diverse signs of sentience.
- Refining the Scale over Time: The scale would likely need to be refined as our understanding of alien life and sentience evolves. New discoveries and encounters with different alien species would necessitate adjustments and improvements.

The Xeno-Sapien Health Assessment Scale (XSHAS)

This essay proposes the Xeno-Sapien Health Assessment Scale (XSHAS), a point-based system designed to gauge aliens' sentience and recommend appropriate levels of medical care.

This scale would be a simplified framework, and it is important to recognise that it may not capture the full complexity of sentience in an alien being. Each criterion within the scale would require careful observation

16 Animal Ethics, "Invertebrate Sentience: A Review of the Neuroscientific Literature," https://www.animal-ethics.org/invertebrate-sentience-a-review-of-the-neuroscientific-literature/.

and interpretation based on the specific biology and behaviour of the encountered intelligence.

Additionally, the scale itself is inherently subjective and may require adjustments as we gain new information and grapple with the ethical considerations involved. Therefore, it should be used with extreme caution if and when such a tool becomes necessary.

Ultimately, open communication and ongoing observation will be far more important than relying solely on a score to determine an alien's sentience and its right to healthcare.

The core issue lies in defining sentience for beings potentially vastly different from us. Our current medical ethics prioritise sentient beings with the capacity to experience suffering. However, how do we recognise this in an alien form?

The XSHAS will evaluate aliens based on the following five criteria:

- Xenobiology: Compatibility of the alien's biochemistry with Earth-based medicines and procedures.
- Physiology: Understanding of the alien's body structure and functioning to determine if treatment is even possible using current methods.
- Self-Awareness: The alien's ability to recognise itself as an individual distinct from its environment.
- Communication and Consent: The alien's ability to communicate needs and understand medical procedures.
- Social Complexity and Behaviour: The alien's social structure and capacity for emotional response.

Scoring Methodology:

Here is a breakdown of points and levels:

Xenobiology (1-5 points):

- 1 Point: Extreme biochemical differences, posing high risk of adverse reactions.
- 2 Points: Some shared biochemical elements, requiring significant treatment adaptation.
- 3 Points: Moderate biocompatibility, allowing potential adaptation of existing medical technology.
- 4 Points: High degree of biocompatibility, facilitating the use of Earth-based medical procedures with minimal risk.
- 5 Points: Full biocompatibility with Earth-based life forms.

Physiology (1-5 points):

- 1 Point: Vastly different physiology, rendering treatment nearly impossible.
- 2 Points: Limited understanding of alien physiology, hindering treatment options.
- 3 Points: Basic understanding of alien physiology, enabling rudimentary supportive care.
- 4 Points: Significant understanding of alien physiology, allowing for some targeted medical interventions.
- 5 Points: Full understanding of alien physiology, permitting comprehensive medical care.

Self-Awareness: (1-5 points):

- 1 Point: Limited self-awareness, primarily reacts to stimuli.
- 2 Points: Recognises itself as separate but lacks introspection.
- 3 Points: Understands its own existence and basic needs.
- 4 Points: Exhibits complex emotions, self-preservation instincts and problem-solving abilities.
- 5 Points: Demonstrates advanced self-awareness, including theory of mind (understanding others' intentions).

Communication and Consent (1-5 points):

- 1 Point: Non-verbal communication only, limited understanding of gestures.
- 2 Points: Understands basic symbols or pictograms.
- 3 Points: Attempts rudimentary communication through sounds, gestures, or a basic language.
- +1 Point (Bonus): If communication can be established with existing technologies.
- 4 Points: Communicates and expresses basic needs and consent.
- 5 Points: Fluent communication with a high degree of understanding complex ideas and ability to discuss medical issues and give consent.

Social Complexity and Behaviour (1-5 points):

- 1 Point: Solitary creature with no social structure.
- 2 Points: Simple social interactions, limited cooperation.
- 3 Points: Complex social groups with defined roles and communication methods.
- 4 Points: Exhibits empathy, altruistic behaviour and potential for collaboration.
- 5 Points: Highly organised society with sophisticated social structures and potential for knowledge exchange.

Total Score and Recommendations:

The total XSHAS score is calculated by adding the points from each category. Here are the recommended actions based on the score range:

- 5-10 Points: Basic care, prioritising avoiding harm. Focus on observation, passive monitoring and attempts at establishing communication.
- 11-15 Points: Intermediate care, emphasising trust-building and basic communication. Medical intervention only if absolutely necessary and with extreme caution.
- 16-20 Points: Advanced care, prioritising communication and understanding needs. Medical intervention with significant caution, considering xenobiology and physiology.
- 21-25 Points: Comprehensive care, treating the being as equivalent to a human patient. Utilise all available resources for communication, collaboration and treatment.

By establishing a framework for assessing the needs of extraterrestrial beings, the XSHAS can inspire a more ethical and compassionate approach to providing healthcare in the event of an encounter. The "do no harm" principle should always guide medical decisions.

However, the XSHAS is not a definitive answer, but a starting point for navigating this unprecedented possibility. It acknowledges the ethical imperative to protect sentient beings, even those unlike ourselves, while ensuring responsible allocation of medical resources. Further development of the scale would necessitate extensive international collaboration from a panel of experts across the medical, technological and ethical fields.

The XSHAS, nonetheless, is a flexible introductory framework that can be adapted as we learn more about extraterrestrial life. It allows for a nuanced approach to providing medical care for sentient aliens, ensuring ethical treatment and respect for their unique biology and needs.

THE FUTURE OF SENTIENCE

The ongoing debate surrounding physiological markers of sentience holds profound significance for our evolving understanding of life and the ethical obligations we hold, transcending academic discourse. It holds the key to unlocking a future where the right to health is not confined by planetary boundaries but embraces all sentient beings capable of experiencing the world in a subjective and potentially vulnerable way.

Ultimately, a combination of approaches might be needed. No single factor will definitively prove sentience. The search will likely involve collaboration between scientists from various disciplines. It would be a monumental task, but the potential rewards—understanding ourselves better, fostering communication with potential alien neighbours and ensuring a peaceful and productive future for humanity in a potentially multi-sentient universe would be immense.

As we stand at the threshold of potential extraterrestrial encounters, recognising sentience is not just a scientific pursuit or an academic exercise, but also a moral imperative that can guide us towards a more inclusive and responsible future for all sentient life in the universe.

Here is how this ongoing development directly relates to securing the right to health for extraterrestrial beings:

- Ethical Considerations: If we encounter a demonstrably sentient extraterrestrial race, it raises a whole host of ethical questions. Is it deserving of rights? Do we have a responsibility to protect it? Classifying its sentience would be essential for navigating these complex ethical dilemmas.
- Strengthening the Case for Universal Healthcare: If we can establish a robust framework for identifying sentience based on objective criteria, such as physiological markers, the presence of a complex nervous system, specific brain structures and relevant neurochemicals in an extraterrestrial being, we can build a compelling argument for its capacity to experience suffering and the need to safeguard its well-being.
- Peaceful Coexistence: If we encounter a sentient alien race, classifying its sentience would be a first step towards establishing a common ground for communication and potentially even collaboration. Imagine encountering a highly intelligent but emotionally inscrutable alien species. Misinterpreting its actions or intentions could lead to conflict. Understanding its sentience could help us to avoid misunderstandings and to promote peaceful coexistence.
- From Encounter to Responsibility: Imagine a scenario in which we establish first contact with sentient extraterrestrial life forms. The ability to identify sentience through physiological markers would be crucial in determining the appropriate course of action. Recognising them as sentient beings with the potential to experience pain and illness would necessitate extending healthcare as a fundamental right, fostering a more ethical and responsible approach to extraterrestrial encounters.
- Scientific Advancement: Studying a different form of sentience could revolutionise our understanding of consciousness itself. It might provide

insights into the biological and neurological underpinnings of sentience, potentially leading to breakthroughs in fields like neuroscience and artificial intelligence.

- Beyond the Boundaries of Species: The ability to assess sentience objectively could fundamentally alter our relationship with other animals on Earth. By identifying the presence of sentience in various species, we can strengthen the ethical arguments for their well-being and bolster the animal welfare movement. Imagine a future in which veterinary medicine is no longer solely focused on physical health, but also incorporates the emotional and subjective experiences of sentient animals.
- A Deeper Look Within: By investigating the biological underpinnings of sentience in other beings, we gain a richer perspective on our own subjective experiences. Are we alone in experiencing emotions and consciousness, or is it a more common phenomenon in the universe? This could force us to re-evaluate our place in the cosmos and lead to a deeper understanding of what it means to be human.

INTERSTELLAR ENCOUNTERS BEYOND EARTH

ALH84001: A Beckoning Possibility?

ALH84001 is a fragment of a Martian meteorite that was found in the Allan Hills of Antarctica in December 1984 by a team of American meteorite hunters. It is considered one of the most significant meteorites ever found, because it has sparked scientific debate about the possibility of past life on Mars.

This discovery of ALH84001 strengthens the arguments for considering the right to health for aliens encountered during interstellar missions in several ways:

1. Potential for Extant Life:
ALH84001, while controversial, reignited the scientific community's interest in the possibility of past or even extant life on Mars. If microscopic life forms could exist on Mars, then life, in some form, could potentially exist on other planets or moons we encounter during interstellar missions. The possibility of encountering living organisms on these celestial bodies raises ethical questions about our responsibility towards their well-being, potentially including their right to health.

2. Contamination Concerns:
The idea of planetary protection, highlighted by the ALH84001 discovery, takes on even greater significance. If we take the possibility of extant Martian life seriously, then we must be even more meticulous about avoiding forward contamination (Earthly organisms harming alien ecosystems). This focus on protecting alien environments translates to a responsibility to ensure the well-being of any life forms we encounter, potentially including offering medical aid if necessary. There are strong arguments against bringing alien life to Earth, with concerns for the well-being of both the alien organism and our own planet. The potential for "backward contamination," in which extraterrestrial life or bioactive molecules from other worlds could pose a threat to Earth, also demands serious consideration.

3. The Precautionary Principle:
Even if the evidence from ALH84001 for past life is inconclusive, it highlights the importance of the precautionary principle in space exploration. This principle suggests that when the potential for harm is unknown or uncertain, we should err on the side of caution. In the context of encountering extraterrestrial life forms, this could translate to assuming they have a right to health and taking steps to avoid causing them harm, including providing medical treatment to complex intelligences if necessary.

4. Fostering Interstellar Cooperation:
If we encounter a civilisation capable of interstellar travel, the concept of right to health becomes even more relevant. Providing medical aid, if needed, could be a crucial step in building trust and fostering positive relations with an alien civilisation. Collaboration on healthcare issues could lead to mutually beneficial advancements in medicine for both species.

In conclusion, the discovery of ALH84001 adds weight to the arguments for considering the right to health for aliens encountered on Earth or during interstellar missions. It highlights the potential for encountering alien life, the importance of avoiding contamination and the value of fostering positive interstellar relations through responsible and ethical practices.

Implementing Protocols

As we continue our outer space odysseys with pronounced ambition, the prospect of encountering sentient life beyond Planet Earth presents a thrilling scientific opportunity, but also necessitates a well-defined health protocol for ensuring the well-being of all parties involved.

Here is how we might extend the right to health in

such a scenario, prioritising both the alien organism and our own biosphere:

Remote Assessment:

- Universal Medical Drones: Imagine a future in which highly advanced medical drones, equipped with diagnostic tools and capable of remote analysis, could be deployed to assess the health status of encountered alien life forms. This would minimise the risks associated with close contact and allow for a more objective evaluation of their needs. The potential health risks posed by alien life are significant. Extraterrestrial organisms could harbour unknown pathogens, triggering devastating pandemics for which humanity lacks immunity or effective defences. Even with the most stringent containment measures, the risk of accidental release and catastrophic consequences remains a serious concern. These considerations underscore the importance of studying alien life in its natural environment whenever possible. Advanced medical drones and non-invasive scanning technologies could be crucial for assessing the health status of encountered organisms without close contact.
- Non-Invasive Scans: Utilising advanced technology for non-invasive scans could provide valuable insights into alien organisms' biology and potential medical conditions. This information would be crucial for determining the appropriate course of treatment, if necessary.
- Interstellar Telemedicine: The potential for real-time data exchange through interstellar communication channels could pave the way for a novel form of telemedicine. By collaborating with potential alien medical expertise (if communication can be established), we could develop a treatment plan that respects their unique biology.

Quarantine Protocols:

- First Contact Protocol: A pre-established first contact protocol, formulated by an international consortium of scientists, ethicists and legal experts, should guide our initial interactions. This protocol would prioritise peaceful communication, minimise risks of contamination and emphasise respect for the alien life form's autonomy.
- Rigorous Quarantine Procedures: Stringent quarantine measures would be essential to prevent the spread of unknown pathogens from either party. Advanced biocontainment facilities, specifically designed for extraterrestrial organisms, would be necessary to safeguard both the alien being and Earth's biosphere.
- Universal Healthcare Principles: The core principles of universal healthcare, such as access to life-saving treatment and the minimisation of suffering, should be extended to any sentient beings we encounter. However, this must be balanced with respecting their autonomy and bodily integrity.

The Prime Directive

Extending the right to health to extraterrestrial beings presents a unique set of challenges. Communication barriers, vastly different physiologies and the potential for unknown pathogens necessitate a cautious and well-coordinated approach.

However, the potential rewards are also significant, hence, establishing a guiding framework in navigating the offerings of the right to health in interstellar encounters becomes mandatory.

While the specific methods for extending healthcare to alien life forms will depend on the nature of the encounter and the level of communication possible, by emphasising ethical principles, prioritising the well-being of all involved and fostering cooperation, we can approach the prospect of extraterrestrial healthcare with a sense of responsibility and scientific curiosity.

The Prime Directive, though fictionalised in *Star Trek*, represents a thought experiment about the ethics of contact with alien civilisations. It is a guiding principle that prohibits Starfleet (the spacefaring organisation in *Star Trek*) from interfering with the natural development of alien cultures. Here is a deeper dive into the concept:

Core Principles:

- Preservation of Autonomy: The Prime Directive respects the right of alien civilisations to chart their own course. Introducing advanced technology or societal structures could disrupt their natural evolution and limit their potential.
- Minimising Disruption: First contact with a technologically inferior civilisation could have unforeseen consequences. Imagine introducing warp drive technology (faster-than-light travel) to a society struggling with basic warfare. The power imbalance could be catastrophic.
- Avoiding Cultural Contamination: Human values, beliefs and social structures could be overwhelming or even destructive to a developing civilisation. The Prime Directive stresses observation and study, allowing alien cultures to evolve organically.

Criticisms and Complexities:

- Who Defines "Less Advanced"? Drawing a clear line between "advanced" and "less advanced" is subjective. What if an alien civilisation has superior knowledge in some areas but lacks warp drive technology? The Prime Directive becomes a grey area.
- Ignoring Suffering: The Prime Directive prioritises non-interference, even if civilisations face existential threats like war, famine, or natural disasters. Is it ethical to stand by and let them suffer? This has led to debates about offering limited aid without fundamentally altering their society.
- Selective Application: *Star Trek* episodes often showcase situations in which the Prime Directive is bent or broken for seemingly noble reasons. This inconsistency highlights the difficulty of applying a rigid rule in all situations.

Challenges of Applying the Prime Directive

- Right to Life and Health: The Prime Directive prioritises non-interference, but some might argue that aliens have a right to basic healthcare, especially if suffering from treatable conditions. Finding a balance between respecting their autonomy and offering aid is crucial.
- Communication and Consent: If an alien life form cannot communicate effectively, obtaining informed consent for treatment becomes difficult. The Prime Directive would not necessarily offer clear guidance in such situations.
- Finding Common Ground: Perhaps some medical principles are universal. Pain relief or basic wound care might be necessary regardless of biology. The Prime Directive could encourage finding areas of medical overlap while respecting aliens' unique needs.

Alternative Approaches

- Modified Intervention: The Prime Directive focuses on non-interference, but perhaps a "modified intervention" could be considered. Studying aliens from a distance and offering basic, non-invasive medical care (pain relief, wound care) could be an option.
- Universal Code of Ethics: Instead of a rigid Prime Directive, developing a universal code of ethics for first contact could be a better approach. This code would prioritise respecting life, minimising harm and open communication.

While the Prime Directive is science fiction, it sparks discussions about how humanity might approach first contact with alien life. Concepts like cultural sensitivity, avoiding contamination and respecting the autonomy of other life forms are crucial considerations.

The Prime Directive serves as a reminder of the potential challenges that can be encountered during interstellar exploration and the importance of approaching it with caution and respect. Ultimately, the Prime Directive provides a framework for considering the complexities of first contact, but it would not offer a definitive answer on offering healthcare. Finding a balance between respecting aliens' autonomy and ensuring their well-being would be the key challenge.

DEVELOPMENT OF THE RIGHT TO HEALTH FOR ALIENS: CHALLENGES AND THE PROMISE

While international law does not currently guarantee the right to health for aliens, the potential for encountering extraterrestrial life compels us to address questions of importance.

Some of the key considerations include:

- Scope of Coverage: Defining the extent of healthcare services offered to aliens.
- Legal and Ethical Framework: Addressing issues like informed consent, communication protocols, and medical examination procedures specific to alien biology.
- Treatment Standards: Establishing protocols for safe and effective treatment based on aliens' unique physiology.
- Xenobiology Expertise: Collaborating with experts in the novel field of xenobiology to understand aliens' medical needs.
- Financing and Cooperation: Identifying funding mechanisms and fostering international efforts to support these endeavours.
- Data Protection and Privacy: Implementing robust data security measures to protect sensitive alien information.
- Health Emergency Response Plans: Developing protocols for responding to potential health emergencies involving alien visitors.
- Xenomedicine Research and Development: Dedicating resources to learning and understanding the biology, health needs and challenges of extraterrestrial life forms.

As space exploration advances, we must embrace the groundbreaking possibilities—and responsibilities—

that come with it. This includes the potential inclusion of intelligent extraterrestrial life forms within the framework of universal human rights, particularly and most importantly when encountered on Earth.

A Form-Agnostic Ethical Framework: First, Do No Harm

I propose the development of a vital ethical and legal framework that transcends form. This framework should extend support and protection to intelligent non-human life forms entering our planet, while upholding the core principle of "first, do no harm"—a cornerstone of the Hippocratic Oath. This principle must remain non-negotiable, regardless of whether contact occurs on Earth or during an exoplanetary expedition.

Introspection and Expansion: Redefining the Right to Health

Before designing this framework, honest introspection is critical. We must fundamentally redefine the right to health for all of Earth's inhabitants. Our understanding of this right must expand proportionally to the radical investments made in space exploration and potential extraplanetary colonisation plans.

While existing terrestrial healthcare models are still imperfect, addressing the responsibility in extending the right to health to extraterrestrials should encourage us to mend, modify and reboot our current approach towards existing healthcare systems offered to humans on Earth.

Imagine the potential benefits of fostering interstellar cooperation through shared healthcare initiatives and research. Laying the groundwork on Earth for such collaborations is essential in building alliances for a future where the right to health not just transcends planetary boundaries, but most importantly also improves the healthcare systems of Earth's own citizens first.

From Privilege to Right: Empathy and Shared Responsibility

Good health is a fundamental right, not a privilege. We have a moral obligation to extend the same healthcare affordances to aliens as we do to our own species. "Do unto others as you would have them do unto you"—this timeless principle must serve as a guiding light for our future interactions with extraterrestrial life.

Conclusion

The prospect of encountering extraterrestrial intelligence compels us to re-evaluate the very definition of who deserves access to healthcare. Extending this right would not be about recognising aliens as "human" in the traditional sense, but acknowledging their capacity for suffering, a capacity that transcends biological makeup.

By offering medical care, we uphold a fundamental principle: the alleviation of suffering for sentient beings, regardless of their origin. This act embodies the very essence of empathy and compassion, qualities that define not just our species, but potentially others as well.

The expansion of scientific understanding dismantles rigid definitions of "humanity." When a being possesses advanced cognitive abilities, empathy or the potential to develop them, denying healthcare contradicts our core values.

The future holds the promise of unravelling the mysteries of less understood theories on consciousness and sentience through pioneering technologies. This exploration could lead to objective methods of assessing sentience beyond bio-chemical markers, further refining our understanding on multiple fronts.

By embracing a more inclusive understanding of who deserves healthcare, we pave the way for a future in which compassion extends beyond our own species. This may at some point in the near future encompass highly advanced AI or uploaded consciousnesses residing in digital systems, transhuman beings or extraterrestrial visitors—where sentience and/or the potential for suffering become the guiding principle. And so, the ongoing pursuit of objective sentience markers is not merely an academic exercise. It represents a significant leap forward in our understanding of life itself, across the vast spectrum of existence.

A potential encounter with extraterrestrial life demands the formulation of a framework guiding ethical conduct and the offering of assistance, in the spirit of scientific curiosity, and a deep respect for the wonders that may await us among the stars.

At this very moment, crafting such a protocol not only reveals our readiness for a future that we can potentially encounter, but is also a necessary step toward being prepared in architecting a resilient and inclusive system both within our home planet and extending it into the cosmos beyond, embracing the well-being of all universal entities.

In conclusion, "They're just people, like us." This simple statement by Ahsoka in The Clone Wars highlights the importance of seeing others regardless of species and origin, with empathy and understanding.

Ultimately, this is what makes us feel at our very core humane.