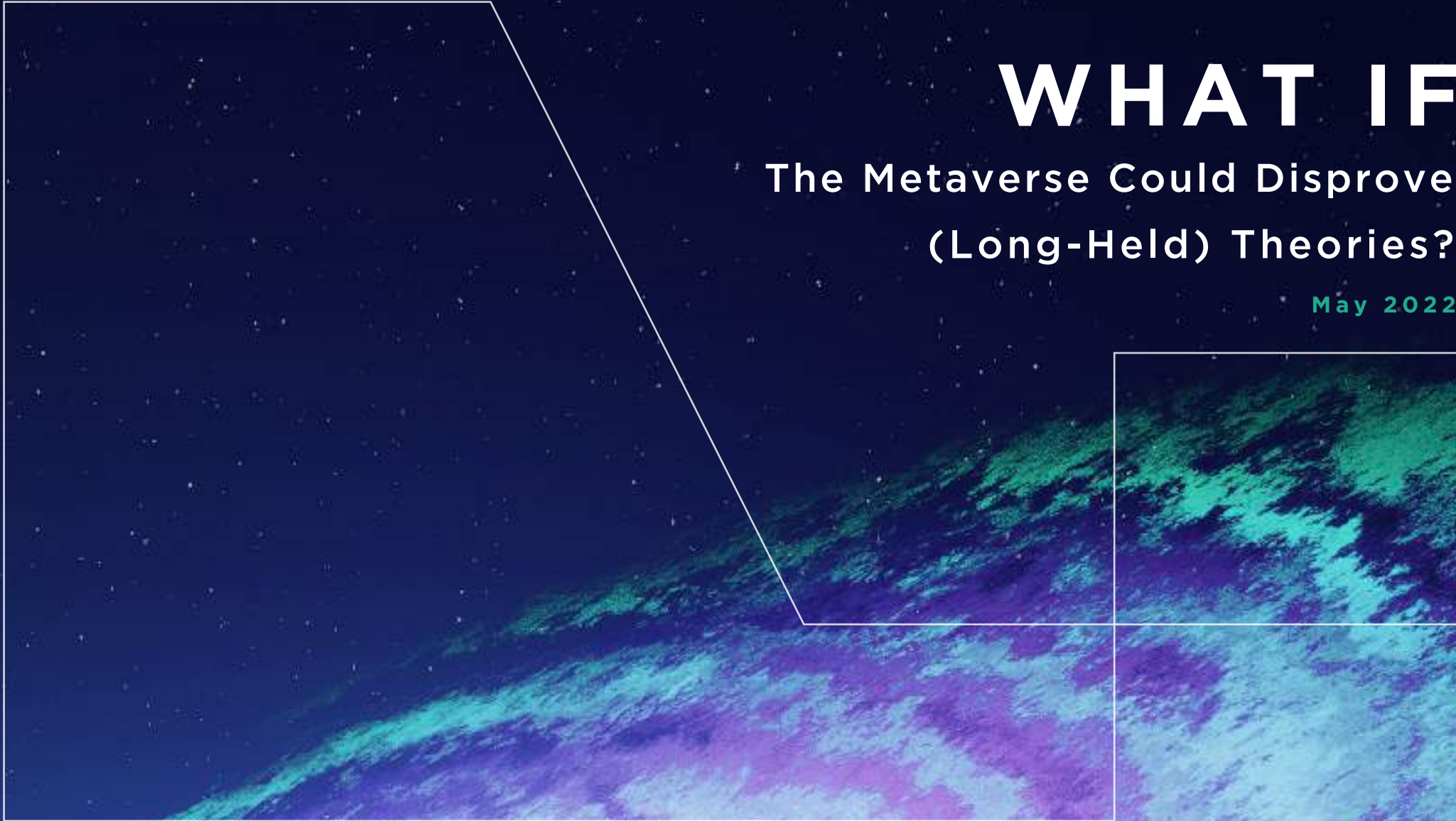


# WHAT IF

## The Metaverse Could Disprove (Long-Held) Theories?

May 2022



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# An attempt at defining the metaverse



**The Metaverse, or the metaverse, remains to be defined.**



In other words, there is no consensus on what the metaverse is.

A thing that is not defined is pliable, not limited to its denotation. Either a shrewd business casting move or an onus that no one wants to concede.



**“What is a definition if not agreed upon?”**

In her keynote at the “Metaverse Unlimited” forum, Cathy Hackl<sup>1</sup>, Godmother of the Metaverse stated that the term “Metaverse/metaverse” is not yet defined even by dictionaries such as Merriam-Webster.<sup>2</sup> (At the time this paper was being written, the term remains undefined.)

“We don’t have the words to explain what is coming,” she stated, while adding that it is important that people not feel left behind, as this is an unknown unknown for everyone. “When you think about the metaverse you need to think about the convergence of the digital and physical world... and it will be realised not by one single tech, not by one single company.”<sup>3</sup>

The investigation into the metaverse is a multi-faceted undertaking. While there is tremendous potential in hypothetically steering the conversation around its sensemaking, there remains an overwhelming sense of being underqualified and underprepared.

1 Forbes. (n.d.). Cathy Hackl. Forbes. Retrieved December 26, 2021, from <https://www.forbes.com/sites/cathyhackl/?sh=61df4a30416c>  
2 Merriam-Webster. (n.d.). Metaverse. Retrieved December 26, 2021, from [https://www.merriam-webster.com/dictionary/metaverse?utm\\_campaign=sd&utm\\_medium=serp&utm\\_source=jsonld](https://www.merriam-webster.com/dictionary/metaverse?utm_campaign=sd&utm_medium=serp&utm_source=jsonld)  
3 Hackl, C. (2021, December 15). “METAVERSE UNLIMITED” The First International Forum by Translucia. Nation Online. <https://www.youtube.com/watch?v=ALPLNwwubHw>



# Mental gymnastics

In this attempt to sense-make, it is important to address the cognitive shortcuts undertaken by most people – reliance on existing knowledge frameworks, otherwise known as schemata.

A **schema** is a knowledge structure that allows organisms to interpret and understand the world around them. Schemata are a method of organising information that allows the brain to work more efficiently.<sup>4,5</sup> Reliance on this cognitive shortcut affords convenience, but can also make it more difficult for individuals to **“think outside the box”**.

Human beings continually retrieve schemata from memory rather than other relevant information cues, leading them to act in ways that tend to confirm their beliefs.<sup>6</sup> In other words, the process of trying to make sense of the metaverse may be hindered by people’s pre-existing knowledge structures.

With this in mind, an exploratory research angle is realised – an attempt at understanding the impacts and implications (if any) of the metaverse on how people create and assign meanings. In other words, “What if the metaverse could disprove long-held theories?” Many assumptions are made (in the writing of this paper) especially regarding the breadth and depth of the audience’s/readers’ understanding of and familiarity with the various thought experiments to be conducted within the next few pages.

4 Nickerson, C. (2021, December 26). The Role of a Schema in Psychology.

SimplyPsychology. <https://www.simplypsychology.org/what-is-a-schema.html>

5 APA Dictionary of Psychology. (2014). APA Dictionary of Psychology. APA. <https://dictionary.apa.org/schema>

6 Walinga, J., & Stangor, C. (2014, October 17). 9.3 Accuracy and Inaccuracy in Memory and Cognition – Introduction to Psychology – 1st Canadian Edition. <https://opentextbc.ca/introductiontopsychology/chapter/8-3-accuracy-and-inaccuracy-in-memory-and-cognition/>



# Decentralisation

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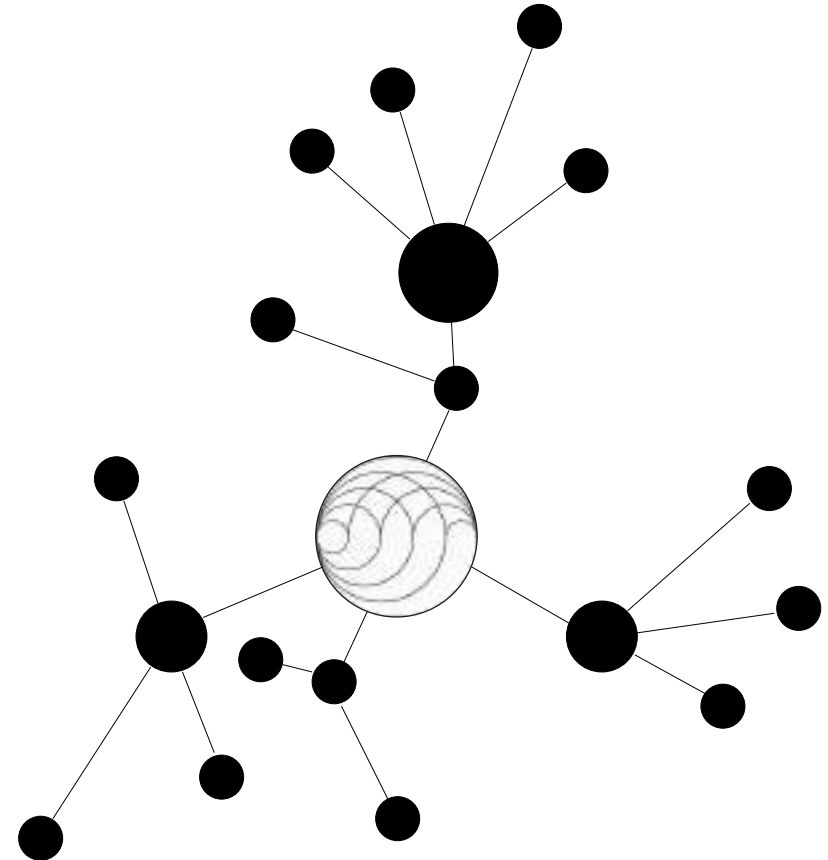
A research related assumption that will be the basis of this exercise is “decentralisation”. It should be noted at the onset that decentralisation is not so much a theory as it is a common and variable practice in most nation states to achieve primarily a diverse array of governance and public sector management reform objectives.<sup>7</sup> In fact, a quick review of literature shows that there is no common definition or understanding of decentralisation, much like the metaverse. Although considerable work has gone into exploring its differing applications, decentralisation means different things to different people, and it is primarily a function of the application.



**The one consensus amongst metaverse pundits is the premise of “decentralisation”.**



“Decentralization, or decentralizing governance, refers to the restructuring or reorganization of authority so that there is a system of co-responsibility between institutions of governance at the central, regional and local levels according to the principle of subsidiarity, thus increasing the overall quality and effectiveness of the system of governance, while increasing the authority and capacities of sub-national levels. ... Decentralization could also be expected to contribute to key elements of good governance, such as increasing people’s opportunities for participation in economic, social, and political decisions; assisting in developing people’s capacities; and enhancing government responsiveness, transparency and accountability.”<sup>8</sup>



7 UNDP. (1999, October). Decentralisation: A Sampling of Definitions. [http://web.undp.org/evaluation/documents/decentralization\\_working\\_report.pdf](http://web.undp.org/evaluation/documents/decentralization_working_report.pdf)  
8 UNDP. (1997, September). Decentralized Governance Programme: Strengthening Capacity for People-Centred Development, Management Development and Governance Division, Bureau for Development Policy, p.4

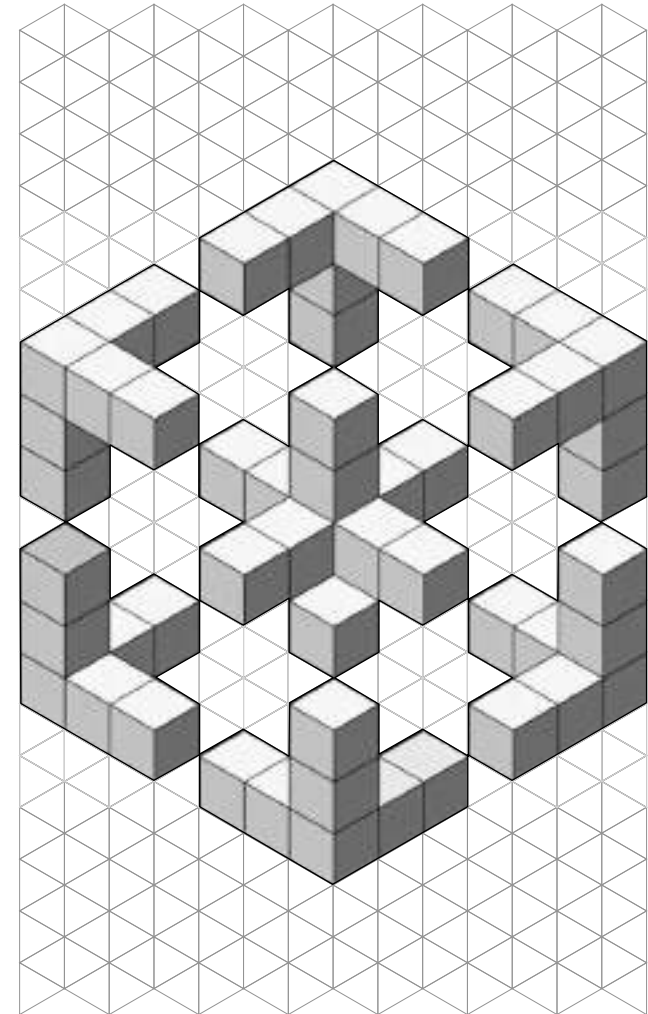


## Decentralisation: One of the building blocks of the Metaverse/metaverse

As Cathy Hackl mentioned in her keynote, “The Metaverse/metaverse will be realised not by one single tech, not by one single company.”<sup>9</sup>

According to Matthew Ball, “While today’s Internet is structured around individual servers ‘talking’ to one another on an as-needed basis, some believe the Metaverse needs to be ‘wired’ and ‘operated’ around persistent many-to-many connections. But even here, there’s no consensus around exactly how this would work, nor the degree of decentralization required.”<sup>10</sup>

Jon Radoff writes, “Blockchain technology, which enables value-exchange between software, self-sovereign identity and new ways of unbundling and bundling content and currencies — is a large part of decentralization. This area of innovation is called Web3, which frees financial assets from centralized control and custody — and within decentralized finance (DeFi), we already see examples of connecting financial Legos to form novel applications. With the advent of NFTs and blockchains optimized for the sort of microtransactions required by games and metaverse experiences, we’ll see a wave of innovation around decentralized markets and applications for game assets as well.”<sup>11</sup>



9 Hackl, C. (2021, December 15). “METAVERSE UNLIMITED” The First International Forum by Translucia. Nation Online. <https://www.youtube.com/watch?v=ALPLNwwubHw>  
10 Ball, M. (2020, January 13). The Metaverse: What It Is, Where to Find it, Who Will Build It, and Fortnite. <https://www.matthewball.vc/all/themetaverse>  
11 Radoff, J. (2021, June 3). The Metaverse Value-Chain. Building the Metaverse. <https://medium.com/building-the-metaverse/the-metaverse-value-chain-afcf9e09e3a7>



# Money Matters





# Money Matters

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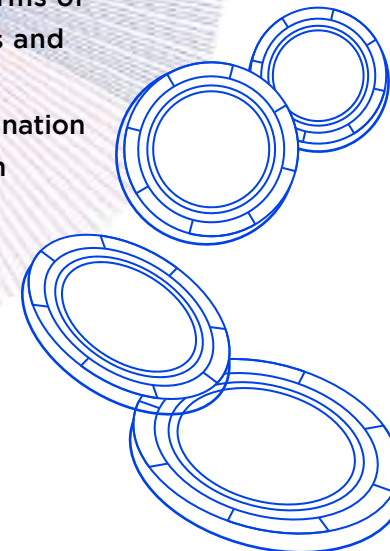
The first area of investigation within this exploratory research attempt will be economics. As thematic as this may seem, definitions are a useful place to begin. A standard definition of economics could describe it as **“a social science directed at the satisfaction of needs and wants through the allocation of scarce resources which have alternative uses.”**<sup>12</sup>

Further elaborations can be made:

- **Economics is about the study of scarcity and choice**
- **Economics finds ways of reconciling unlimited wants with limited resources**
- **Economics explains the problems of living in communities in terms of the underlying resource costs and consumer benefits**
- **Economics is about the co-ordination of activities which result from specialisation**

By extension of the basic definition, economics as applied to agricultural and environmental issues is concerned with the efficient allocation of natural resources to maximise the welfare of society.

In brief, demand and supply, their derivatives, and how they interact will be the subject of this investigation.



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<sup>12</sup> SOAS University of London. (2019). What is economics? soas.ac.uk.  
[https://www.soas.ac.uk/cedep-demos/000\\_P542\\_EP\\_K3736-Demo/unit1/page\\_07.htm](https://www.soas.ac.uk/cedep-demos/000_P542_EP_K3736-Demo/unit1/page_07.htm)

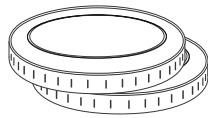


# 3 disciplines of economics

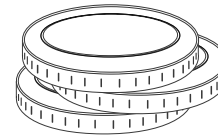
With the ongoing pandemic, disagreements over the sources of decline and recovery are once again being framed through the three persisting disciplines of economics: neoclassical, Keynesian, and Marxian<sup>13</sup> as defined below:



**Neoclassical theory**, borne out of an 18<sup>th</sup>-century intellectual tradition that revered the value of human agency and rationality, asserts that individual preferences and productive capabilities are the most basic determinants in any economy.



**Keynesian theory**, with its emphasis on the influence of mass psychology and institutional power, argues that large, interrelated macroeconomic structures are what determine individual behaviour.



**Marxism** rejects any kind of determinist logic and, instead, insists that all events or objects in the economy are overdetermined. Narrowly speaking, this principle means that it is impossible to account for or isolate every essential cause in the economy because all aspects of society—economic, political, and cultural—are mutually interactive, interdependent, and, therefore, constantly affecting one another in a process known as dialectics.

Knowledge of these divergent theoretical starting points is critical to understanding the differences between them, and informing the next steps of this exploratory journey. The “creator economy” as a segment of modern economies is described in terms of its products, resources, expenses, and revenues. Given the distinctiveness of the information product, it is proven that the “creator economy” could be identified as the “creator economy of new meanings”. It may seem that this economy as infantile as it is in comparison to the others, encompasses several attributes from/of each<sup>14</sup>, with the added element of being decentralised.

<sup>13</sup> Wolff, R. D., & Resnick, S. A. (2012). *Contending Economic: Theories Neoclassical, Keynesian, and Marxian*. The MIT Press. (Original work published 2012)

<sup>14</sup> Radionova, I., & Trots, I. (2021, September). “Creator Economy”: Theory and its use. ResearchGate. [https://www.researchgate.net/publication/355554583\\_CREATOR\\_ECONOMY\\_THEORY\\_AND\\_ITS\\_USE](https://www.researchgate.net/publication/355554583_CREATOR_ECONOMY_THEORY_AND_ITS_USE)



# The creator economy

The “creator economy”, according to Werner Geysler, is the product of “media decentralization” in the sense of “blurring” its (information) affiliation. The latter means that the content of media companies – such as texts, videos, photos – ceases to be their property in the traditional sense. This creates new non-traditional forms of payment for the activities of persons involved in the production of this content.<sup>15</sup>

There are both complicated and simple interpretations of the “creator economy”. In particular, such a simple interpretation is offered by Ollie Forsyth.

## The “creator economy” is presented as a “digital version of the world”.

Moreover, in this version, according to the author of the idea, there is a direct (not mediated by complex actions) support and recognition of digital information professionals.<sup>16</sup>

Some “creator economy” researchers, such as Clara Lindh Bergendorff, emphasise the benefits and opportunities it provides for creators. The “creator economy”, according to the researcher, is a set of platforms, marketplaces, and tools that alter creative activity and business. This shift is owing to the fact that options for efficient employment are becoming more plentiful. It is all about being preoccupied with what a person excels at and enjoys the most. Furthermore, such an economy provides new options for producers to earn a sufficient income.<sup>17</sup>

It can be said that any unique information product developed in this sector of the economy affords researchers the opportunity to forecast the future and set the groundwork for it today. The “creator economy” can be explained as a special segment, intrinsic/immanent to modern economies. It is likely that this segment, under certain conditions, can change the nature of the whole economy, otherwise labelled as “endogeneity of the creator economy”, a phenomenon unique to a certain economy.

<sup>15</sup> Geysler, W. (2021, March 11). The State of the Creator Economy | Definition, Growth & Market Size. Influencer Marketing Hub. <https://influencermarketinghub.com/state-of-the-creator-economy/>

<sup>16</sup> Forsyth, O. (2021, March 16). The Creator Economy boom: What it is, what's driving it, and trends you need to know. Antler. <https://www.antler.co/blog/the-creator-economy-boom-what-it-is-whats-driving>

<sup>17</sup> Bergendorff, C. L. (2021, March 12). From The Attention Economy to The Creator Economy: A Paradigm Shift. Forbes. <https://www.forbes.com/sites/claralindhbergendorff/2021/03/12/from-the-attention-economy-to-the-creator-economy-a-paradigm-shift/?sh=4641efd1faa7>





## Does the metaverse disprove economic theories?



So, what are the future implications of this economics 101 reading fest that was just served up?

- With the premise of decentralisation, people in virtual environments can create economic value without putting any strain on the physical resources of planet Earth (demand and supply).
- The more complex and flexible a virtual reality the Metaverse creates, the more humans will actually be able to innovate new goods and services within that reality (questioning the idea of fixity/finite resources).

For users immersed within the Metaverse/ metaverse, this then creates a new reality - one replete with boundless opportunities because the inherent earthbound knowledge of scarcity/limited/finite resources does not carry into this digital space.

Within the parameters of this digital world, it can be said that the economic theory of demand and supply and its derivatives can be considered as disproved/not relevant - because scarcity of physical resources does not exist.

However, what this also implies is that the Metaverse/metaverse will have a decentralised regulatory system as well as policies. How extensive/encompassing is this assumption?

Furthermore, how relevant is this quasi-conclusion when considering the rise of tokenomics?

“Tokenomics is the combination of token and economics, it refers to a crypto asset’s qualities that make it appealing to both users and investors. It refers to the supply and demand characteristics of the asset.”<sup>18</sup>

<sup>18</sup> Forbes. (n.d.). Cathy Hackl. Forbes. Retrieved December 26, 2021, from <https://www.forbes.com/sites/cathyhackl/?sh=61df4a30416c>



# Enter - tokenomics

As the web continues to decentralise with the adoption of blockchains, new technology business models are emerging, particularly in the ecommerce sector. The incorporation of digital tokens into transaction flows is done by using digitally native tokens as a medium of payment for transactions on the platform.

The growth in financial markets is also a cause-and-effect situation of decentralised financial applications as well as the tokenisation of unique, or nonfungible tokens and assets, informally referred to as “NFTs,” whether tangible (like a house) or intangible (like a digital photo).

**Increasingly, we are seeing these business models emerge as decentralized, autonomous organizations that will govern a business from the bottom up rather than top down in the classical capitalist style.<sup>18</sup>**

Financial assets are built in the form of fungible cryptographic tokens for platform users to receive and pay as currency without bank or government involvement. The economic design of the token, the allocation of tokens among stakeholders in the business, on what terms the token commences trading, as well as how that trading evolves over time, are referred to as ‘tokenomics’, or the economics of a token.<sup>18</sup>



# What are NFTs?

In economics, a fungible asset is something with units that can be readily interchanged – like money. With money, you can swap a 100 note for two 50 notes and have the same value.

However, if something is non-fungible, this is impossible – it means it has unique properties so it cannot be interchanged with something else. It could be a house, or a painting such as the Mona Lisa, which is one of a kind. People can take a photo of the painting or buy a print but there will only ever be one original painting.

NFTs are 'one-of-a-kind' assets in the digital world that can be bought and sold like any other piece of property, but which have no tangible form of their own. The digital tokens can be thought of as certificates of ownership for virtual or physical assets.<sup>19</sup>

The quasi-conclusion a few paragraphs ago indicated that the Metaverse/metaverse creates a new reality – one where the inherent earthbound knowledge of scarcity/limited/finite resources is no longer relevant. This does hold true, however. Within the parameters of the Metaverse/metaverse, a new type of scarcity is introduced – one that is applied. The valuation of an NFT is driven by scarcity of supply and speculation.

**Value of an NFT = Utility + Ownership History + Future Value + Liquidity Premium<sup>20</sup>**

Depending on the asset that the NFT represents, value is weighted differently across these four components. NFTs create many new ways for values to be created for both developers and asset owners.

19 BBC. (2021, March 12). What are NFTs and why are some worth millions? BBC News.

<https://www.bbc.com/news/technology-56371912>

20 Chang, H. (2020, March 25). Understanding the value of Non-Fungible Tokens (NFT). Medium.

<https://medium.com/@changhugo/understanding-the-value-of-non-fungible-tokens-nft-49d2713bdfc4>

21 Lehot, L., & Daugherty, P. (2022, January 25). The law of tokenomics, revisited. VentureBeat. <https://venturebeat.com/2022/01/25/the-law-of-tokenomics-revisited/#:~:text=Tokenomics%2C%20the%20combination%20of%20token>

22 Maizels, M. (2022, January 13). NFTs Are Finance as an Aesthetic Medium. Nasdaq.

<https://www.nasdaq.com/articles/nfts-are-finance-as-an-aesthetic-medium>

23 Kaczynski, S., & Kominers, S. D. (2021, November 10). How NFTs Create Value. Harvard Business Review.

<https://hbr.org/2021/11/how-nfts-create-value>

24 Ashton, H. (2021, October 16). Will NFT go up in value? Understand why some are worth millions. Washington Post.

[https://washingtonindependent.com/will-nft-go-up-in-value-understand-why-some-are-worth-millions/#How\\_does\\_NFT\\_increase\\_in\\_value](https://washingtonindependent.com/will-nft-go-up-in-value-understand-why-some-are-worth-millions/#How_does_NFT_increase_in_value)

## Supply, token models, and NFTs – what is the relationship?

Supply is one of the primary components of the tokenomics of a crypto asset.

There are different types of supply to check when it comes to crypto assets. The number of tokens issued and currently in circulation is called the circulating supply of a token. The total token supply refers to the number of tokens in existence, excluding ones that might have been burned (destroyed). And the maximum supply is the maximum number of tokens that can ever be generated.

Every crypto token has a model which factors into its value.

*Is the token inflationary or deflationary?*

An inflationary token does not have a maximum supply and will continue to be produced over time. Fiat currencies are inflationary by design, which can be (ab)used by governments, leading to devaluation and wealth destruction.

The deflationary token model is the opposite. A deflationary token has either a maximum supply, like Bitcoin's 21 million, or even a decreasing supply. A deflationary token is perhaps more likely to increase in value over time, everything else being equal.<sup>21</sup>

NFTs are deflationary in nature, and are currently the most popular (aesthetic) medium<sup>22</sup> of value and transfer within the digital/virtual landscape.<sup>23</sup> This created shortage in supply, or scarcity ensures demand, therefore appreciating value.

NFTs create digital scarcity of digital files and turn them into digital assets while guaranteeing proof of authenticity. Their value increases over time because their usefulness cannot be challenged like any digital file available on the internet.



In this thought experiment of disproving (challenging) long-held theories, the economics section has taken quite a head-spinning turn.

The early quasi-conclusion within this writing was that digital/virtual/metaverse systems would do away with earthbound concepts and understanding of supply and demand – and by extension, the overarching principles of economics. This remains true within the lens of fixity relative to real-world resources.

However, a conundrum is introduced with the realisation of applied scarcity within the scope of non-fungible tokens (NFTs).

**This then presents an interesting scenario where those who grow up straddling the invisible lines of physical and virtual worlds understand economics through two disparate lenses of scarcity: one of fixity and the other of applied scarcity.**

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25 Vybiral, Z., Smahel, D., & Divinova, R. (2004, January). (PDF) Growing Up In: Virtual Reality: Adolescents and the Internet. ResearchGate. [https://www.researchgate.net/publication/261308465\\_Growing\\_Up\\_In\\_Virtual\\_Reality\\_Adolescents\\_and\\_the\\_Internet](https://www.researchgate.net/publication/261308465_Growing_Up_In_Virtual_Reality_Adolescents_and_the_Internet)

26 OECD. (2019). Childhood in the digital age | Educating 21st Century Children: Emotional Well-being in the Digital Age. OECD iLibrary. <https://www.oecd-ilibrary.org/sites/2d4352c2-en/index.html?itemId=/content/component/2d4352c2-en>



The recognition and acceptance that future generations will have different frameworks of inference – in other words, schemata – to sense-make presents a slew of investigative avenues. What impact (if any) would the co-growing up within physical and virtual worlds have on them and how they perceive/understand the world(s)?

The internet has altered how knowledge and information is disseminated and consumed. Communication, language, shared and individual knowledge have evolved from “ivory tower” statuses and taken on a different rhythm, which is also reflected in deeper, experiential layers of the psyche.<sup>25</sup> Exchange of ideas take place both in the physical and the virtual worlds; however, this exchange in a virtual environment has specific features such as multiplicity, superficiality, and disinhibition – to name a few.<sup>26</sup>

In order to further exercise the mind, the question of “What if the metaverse could disprove long-held theories?” turns to the principles concerning the distinction between right and wrong, or good and bad behaviour – the concept of morality.



# Value Creation





# Value Creation

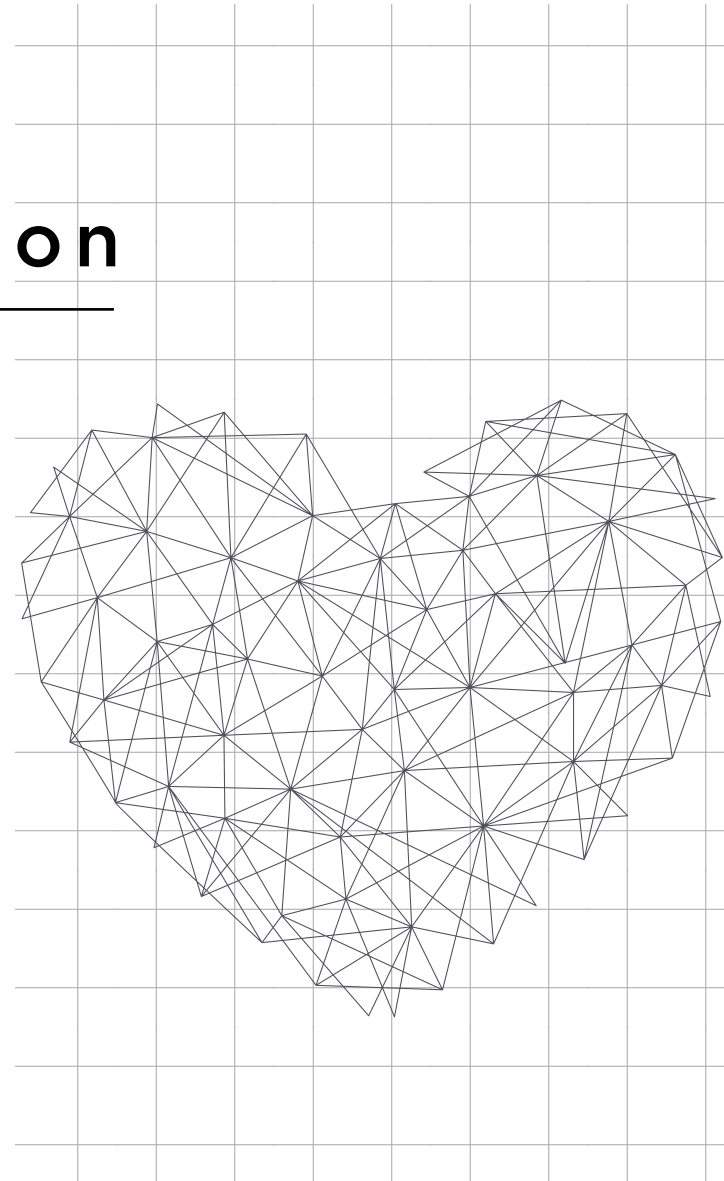
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Another concept that does not have consensus in definition, “morality”, has been a topic of discourse over the years. Many great minds and thinkers have been through the wringer on this, debating the very notion of what this word means and/or indicates.

The question of the definition of morality is the question of identifying the target of moral theorising. Identifying this target facilitates the understanding that different moral theories are all attempting to capture the very same thing.<sup>27</sup>

“Morality” seems to be used in two distinct broad senses: a descriptive sense and a normative sense. More particularly, the term “morality” can be used either

- **descriptively** to refer to certain codes of conduct put forward by a society or a group (such as a religion), or accepted by an individual for their own behaviour, or
- **normatively** to refer to a code of conduct that, given specified conditions, would be put forward by all rational people.



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<sup>27</sup> Gert, B., & Gert, J. (2002). The Definition of Morality (Stanford Encyclopedia of Philosophy). Stanford. <https://plato.stanford.edu/entries/morality-definition/>





# Morality and culture

In every human group there is a set of morals, or collectively shared practices or local ways of behaving not directly ruled by biological processes. Practices are evaluated not only as effective or ineffective, but also as good or evil, desirable, or forbidden.

## Cultures are “moral orders”.

The cultural sets of practices and values are structured at a basic level by some deep premises, or visions of how the world is and of what it is to be human, of what is true, good, and worth living for. These are experienced as both cognitive judgments and as aesthetic and emotive reactions. They usually remain un-reflected upon and unexplored, but, if contested or attacked, manifest their roots in some deep layer of individual and collective identity, or value system, through defensive and aggressive reactions.<sup>31</sup>

Morality and behaviours are highly sensitive to culture. The understanding and construction of the exact same moral issues can vary substantially across individuals who come from different cultural backgrounds or possess different levels of multicultural experiences.<sup>32</sup>

What then does the introduction of decentralised online communities do to the suite of references and behavioural indicators that have been documented and stored through the process of observation, trial and error, cause and effect? In essence, virtual communities are not centralised in the stereotypical format, rather they are a collective of like-oriented individuals from various backgrounds, forming a nascent decentralised community.

<sup>31</sup> Noam, G. G., & Wren, T. E. (1993). *The Moral Self: Building a Better Paradigm*. MIT Press Books. <https://mitpress.mit.edu/books/moral-self>

<sup>32</sup> Hu, X., Yu, F., & Peng, K. (2018). How does culture affect morality? The perspectives of between-culture variations, within-culture variations, and multiculturalism. *Advances in Psychological Science*, 26(11), 2081. <https://doi.org/10.3724/sp.j.1042.2018.02081>



# Virtuality and morality

Virtuality (virtual reality/experience) offers an unprecedented degree of what is called “perspectival fidelity”<sup>33</sup> that prior modes of simulation such as film or computer game simulations lack. Having the ability to produce ‘virtually real experiences’, virtuality generates ethical issues because subjects of these experiences treat them as if they were real. These experiences, so to speak, are stored as lived experiences, and can be recalled by the individual to assess/judge a situation. In other words, a virtual experience can become a signpost for moral evaluation.

The fact that virtuality enables an individual to interact with virtual characters within virtual spaces raises another interesting question. **Does the golden rule of reciprocity (*treat others as you would have them treat you*) apply to fictional virtual characters?**

Added to this, with the development of tools that allow for more realism, should this “rule” extend to virtual representations of real people? Then multiply this with the burgeoning decentralised virtual communities, how is morality defined? How is culture defined?

<sup>33</sup> A form of sense-making that combines the ability to contextualise real-world information against that of virtually generated stimuli?itemId=/content/component/2d4352c2-en



## Redefining morality and culture through virtuality

For digital natives and future generations, the concept and derivatives of morality will not only be decentralised and multifaceted as a result of exponential globalisation, but also “multiversal” as they will be drawn from physically lived as well as virtually recorded experiences.

Socialisation profoundly influences moral reasoning which in turn “produces” culture. Morals are held and agreed to by all members of a particular culture. In most cases, morals are upheld through rules, laws, and other types of sanctions for their transgression. Rewards are given to people who express the “preferred morality”, for instance, in the form of prizes, honours, and awards. In contrast, those who violate these moral standards are punished. Positive evaluations are attributed to people society considers “moral” (e.g., trustworthy, empathetic, friendly) and negative evaluations to the “immoral” ones.<sup>35</sup>

Clear exhibits of these new typologies of culture and morality can be seen within the world of gaming. Individuals choose to associate themselves with like-oriented individuals and create clans with their own rules of governance.<sup>36</sup>

35 Bastian, B., Laham, S. M., Wilson, S., Haslam, N., & Koval, P. (2011). Blaming, praising, and protecting our humanity: The implications of everyday dehumanization for judgments of moral status. *British Journal of Social Psychology*, 50(3), 469 - 483. <https://doi.org/10.1348/014466610X521383>

36 Wallner, G., Schinnerl, C., Schiller, M. H., Monte Calvo, A., Pirker, J., Sifa, R., & Drachen, A. (2019). Beyond the individual: Understanding social structures. *Entertainment Computing*, 30, 100284. <https://doi.org/10.1016/j.entcom.2019.01.002>



In extension, it can be said that with the realisation and adoption of the Metaverse/metaverse, or duality in everyday living, the concept of morality - what is "right" and "wrong" as well as the construct of culture - will be challenged and no longer be centralised to physical indicators such as geography, ethnicity, or appearances.

Individuals will therefore be emancipated to re-examine the anachronistic perspective on morality, refuting the archaic culture yielding systems, and introducing a decentralised and participatory approach to engendering communities with shared meanings and values.

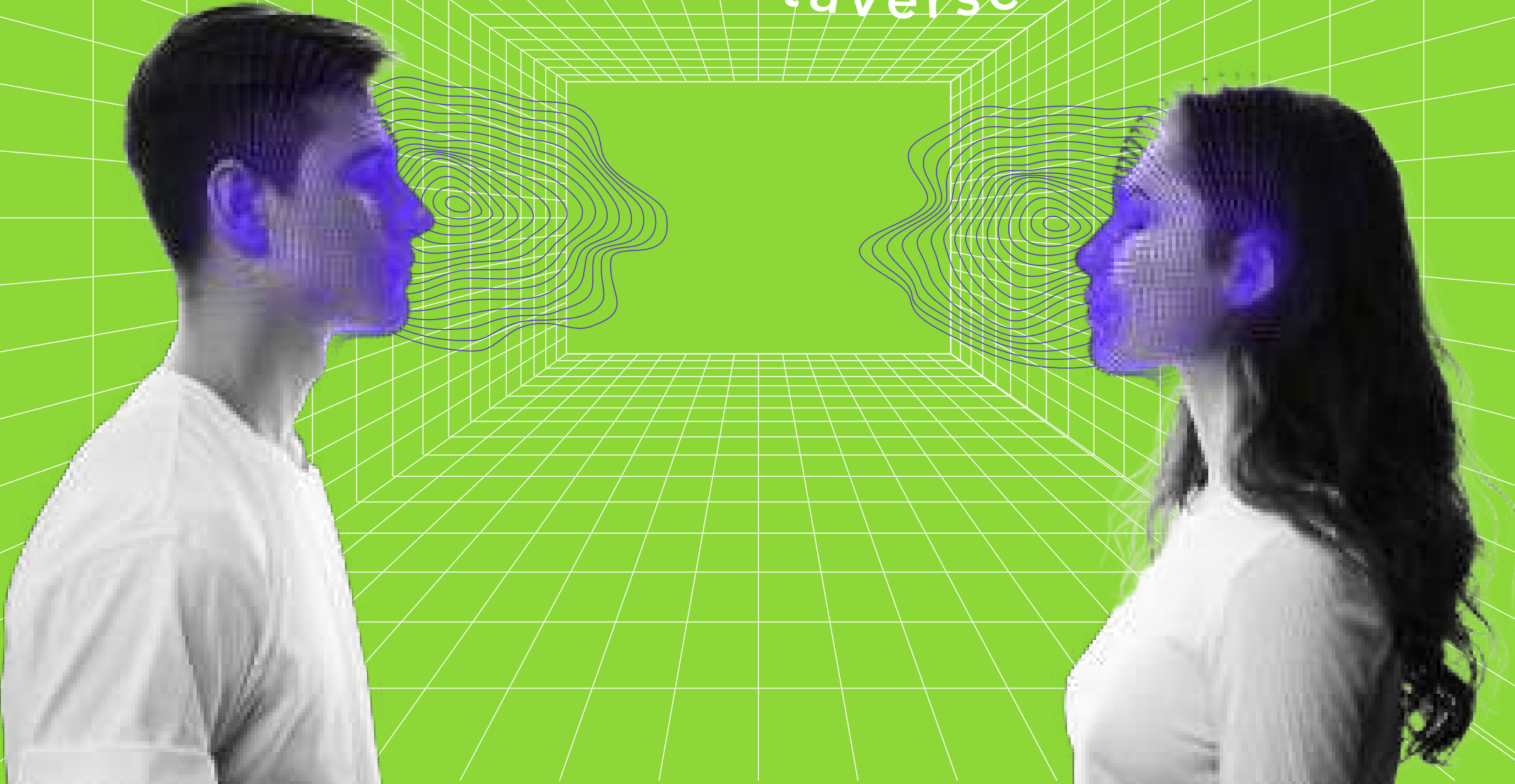


**As the modes of social interaction within the Metaverse/metaverse become interoperable, cultures are redefined and the characterisation of "good" and "bad" are deconstructed to be reconstructed with new frameworks.**





# Identity in the Metaverse





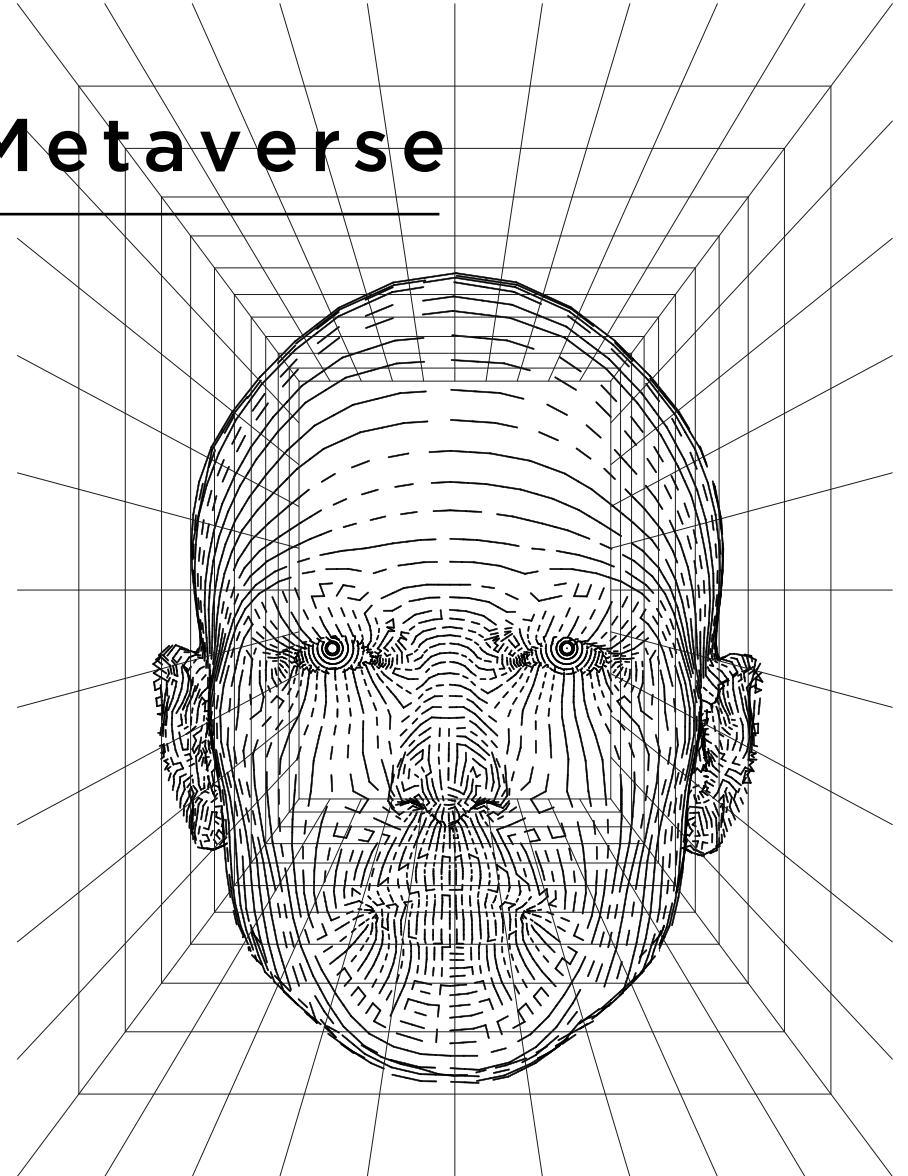
# Identity in the Metaverse

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## How does an individual partake in the creation of such new cultures?

The answer is simple - one must be part of the ecosystem(s), presence is critical to/in world-building.

One of the first tasks that people must carry out when entering a virtual world is to create a virtual representation for themselves. This mostly entails the creation of an avatar that represents some desired appearance/characteristics/features, whether a reflection of one's real-life self, or a different identity. Herein lies another thought exercise: To what extent does virtual-self mirror real-self?





# Identity variance

Identity is defined as the mental model one has of oneself.<sup>37</sup> Identity formation and presentation is a social act where people present their identity to others through their interactions in everyday life and it is further refined by these interactions.<sup>38</sup>

People construct identity in the virtual world in a manner similar to how it is done in real-life. That is, their identity emerges and evolves through their online interactions with others.

**In a virtual world, online identity is potentially much more flexible than real identity, allowing effortless changes in race, class, gender, age, socio-economic background, and even species.<sup>39</sup>**

It offers freer self-definition, including multiple identities and shared identity, within worlds that are not necessarily mirroring the behaviour guidelines or prescribed etiquette of the real world.<sup>40</sup>

Within the parameters of each virtual world are certain limited choices contingent on their specific specs. What the metaverse offers is the interoperability of these different virtual worlds – therefore, the transportation of different identities/avatars from controlled environments (so to speak) to an unrestricted sphere. To a certain degree, it can be said that identities within the virtual world(s) are centralised on the limitations imposed within them. With the introduction of the metaverse and decentralisation this is then put under the microscope.

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<sup>38</sup> Waskul, D. and Douglas, M. (1997) Cyberself. The Emergence of Self in On-Line Chat. Information Society, Vol. 13, (1997), 375-397.

<sup>39</sup> Neustaedter, C., & Fedorovskaya, E. (2009). Presenting Identity in a Virtual World through Avatar Appearances. Kodak Research Labs. <https://dl.acm.org/doi/pdf/10.5555/1555880.1555921>

<sup>40</sup> Chan, M. J. (2007, June 14). Identity in a virtual world. CNN. [https://edition.cnn.com/2007/TECH/06/07/virtual\\_identity/index.html](https://edition.cnn.com/2007/TECH/06/07/virtual_identity/index.html)



# Interoperability

Another term that floats around the conversations of the metaverse is that of “interoperability”. According to the Cambridge Dictionary, interoperability is *“the degree to which two (or more) products, programs, etc. can be used together, or the quality of being able to be used together”*.<sup>41</sup> In the current technological landscape, most software and hardware are licensed and unique to manufacturers.<sup>42</sup>

**One requirement for realising the Metaverse/metaverse is that all elements of its technology should be able to “speak” to each other.**

Even though the 21<sup>st</sup> century is denoted by the oversaturation of machines, technology, and gadgets, the reality is that most of these instruments do not interoperate. What companies have done in silos is create niche markets and interest, making the possibility of living in the virtual world more attractive to those with access. The concept of decentralisation and interoperability envisions that these barriers to entry will be removed and a robust metaverse will emerge. Given this, the opportunity to create and retain persistent identities will come to fruition. What then do these new identities look like?

<sup>41</sup> Cambridge Dictionary. (2022, February 16). Interoperability. Cambridge University Press. <https://dictionary.cambridge.org/dictionary/english/interoperability>

<sup>42</sup> Kerber, W., & Schweitzer, H. (2017). Interoperability in the Digital Economy. JIPITEC, 8(1). <https://www.jipitec.eu/issues/jipitec-8-1-2017/4531>

<sup>43</sup> Radoff, J. (2021, November 24). Web3, Interoperability and the Metaverse. Building the Metaverse. <https://medium.com/building-the-metaverse/web3-interoperability-and-the-metaverse-5b252dc39da>





## A new interoperable digital identity

**The metaverse if realised in its decentralised form will allow individuals to form an identity that will never change and that can be taken everywhere.**

At the centre of everything someone does on the internet is the individual. All the data obtained from watching videos on YouTube, search queries on Google, and pictures liked on Instagram only makes sense when it is tied to an individual. Traditionally an e-mail address would connect all the dots, or a Facebook account. With the rise of Web 3.0, crypto wallets play a major role in defining an online identity. The new biometrics, so to speak, in the virtual world identity through digital footprints.

**Another identifier would be avatars, which are a way to have a visual representation in 3D worlds: a visible presence in the metaverse.**

As technology evolves, it is likely that avatars will become ever more realistic. Just as Decentraland, Cryptovoxels, The Sandbox, and other blockchain-based games are breaking the mould when it comes to decentralised asset ownership, it is becoming clear that there is an increasing need for some kind of interoperable digital identity, like a passport, that can be used in multiple digital settings to prove who a person really is.<sup>44</sup> Concepts of self and identity in the digital world have the potential to blur the ideas of who individuals really are, and what being an individual means in virtual reality.<sup>45</sup>

In different media people present a different perspective of their identity. Chat, email, blogs, videocams, telephones, face-to-face conversation, and all types of communication modalities, each uniquely highlight certain aspects of self-expression and personal identity, while hiding others.<sup>45</sup> The “self” expressed in one modality is not necessarily deeper, more real, or more authentic than another. This multiple modality framework for understanding the self-within-media bypasses the tendency to become encased in arbitrary arguments about the location of the true or real self – supporting the notion of decentralisation of identity.

44 MP Warpman, M., & Department for Digital, Culture, Media & Sport. (2020, September 1). Next steps outlined for UK's use of digital identity. GOV.UK. <https://www.gov.uk/government/news/next-steps-outlined-for-uks-use-of-digital-identity>  
45 Suler, J. (2004, July). The Online Disinhibition Effect. ResearchGate. [https://www.researchgate.net/publication/8451443\\_The\\_Online\\_Disinhibition\\_Effect](https://www.researchgate.net/publication/8451443_The_Online_Disinhibition_Effect)



As people further integrate with technology, the factors that support self-boundary become disrupted. The physical body and its five senses no longer play as crucial a role as in face-to-face relationships. What others know or do not know about an individual is not always clear.

The feeling of a linear past, present, and future becomes more obscure as people move back and forth through synchronous and asynchronous communication. As a result, this altered state of consciousness in virtuality tends to shift or destabilise self-boundary. The distinction between “inner-me” and “outer-other” is not as clear.

In such a scenario, a person shifts to what psychoanalytic theory calls “primary process thinking” in which boundaries between self and other representations become more diffuse, and thinking becomes more subjective and emotion centred.



**Within the transitional space of online interactions, the psyches of self and other may begin to overlap. Identity is thus decentralised – not only in terms of being part of online communities/clans/guilds; but, also in terms of self-knowledge.**



The follow up question to this supposition would be: How “exact” is this identity relative to earthbound constraints such as time and space? Will online avatars age and progress like the real self? Will memories be codified and stored forever?

If identity and consciousness can be uploaded into the metaverse and be preserved forever, will it be possible to realise the immortality of consciousness, therefore of being, in this virtual parallel world?



# Progression of Life





# Progression of Life

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The quest for immortality, age-reversal – whatever the next iteration is called – has been a human pursuit since time immemorial. Most scientific research and development is geared towards lengthening the human life cycle.

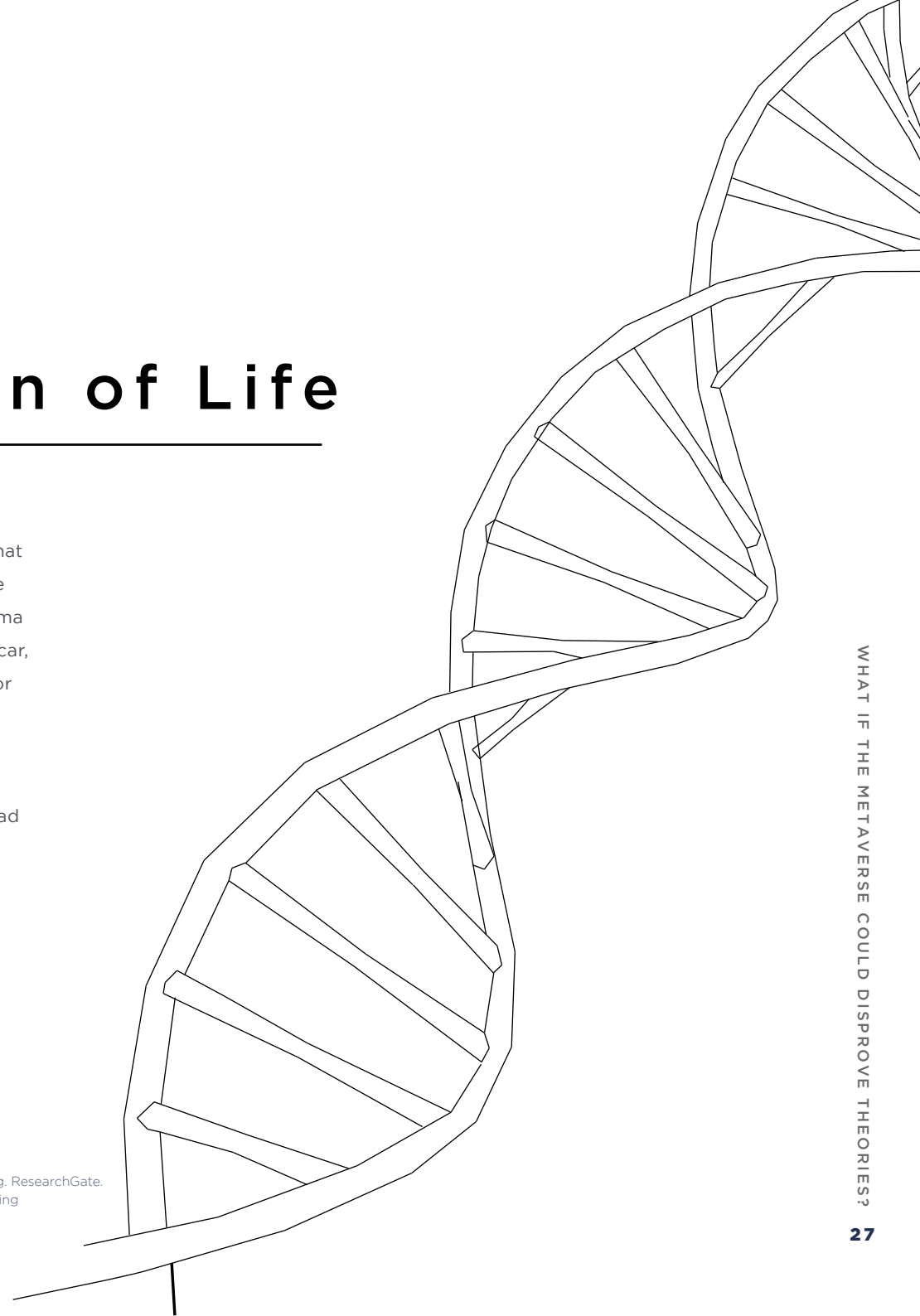
Major scientific breakthroughs have been made possible by new ways of thinking about the human body and by extension the person. A relatively new perspective is to perceive body-persons as made up of substance from a much wider gene pool, and of the body as the temporary and partial expression of a genotype.<sup>47</sup>

Within this perspective it is the DNA that is immortal, and the genes that are the “time travellers”, while the body or soma is just the transport vehicle, the hired car, the temporary and dispensable host for their reproduction. Applying a similar framework, if a person’s identity is a projection of thought processes and memories, it can be said that the upload of memories onto a virtual library of sorts could be the next iteration of transhumanism.<sup>48</sup>

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<sup>47</sup> Rohrbasser, J.M., Olshansky, S. J., & Carnes, B. (2002, July). The Quest for Immortality. *Science at the Frontiers of Aging*. ResearchGate. [https://www.researchgate.net/publication/275942335\\_The\\_Quest\\_for\\_Immortality\\_Science\\_at\\_the\\_Frontiers\\_of\\_Aging](https://www.researchgate.net/publication/275942335_The_Quest_for_Immortality_Science_at_the_Frontiers_of_Aging)

<sup>48</sup> The word ‘transhumanism’ was coined by Julian Huxley in 1957. Transhumanism is loosely defined as the philosophy that man should better himself with the use of advanced technology.





# Digital Darwinism

The traditional concept of digital immortality is centred on the idea that, through technology, a person's identity can be preserved in a digital media format that can then interact with other copies and "live" in virtual worlds.<sup>49</sup> Such alternate virtual environments or metaverses could present an ideal environment for immortal virtual beings.

**Today's technology has advanced to where disorganised digital remains (digital traces) can bring informational "corpses" back to life and create immortal bits-and-bytes clones that can increasingly understand language, cultural nuances and create a faint illusion of human intelligence with the help of artificial intelligence.**

These post-death avatars are the result of merging biology and technology – a new life form that completely replaces physical reality with a purely digital one that can interact digitally with the living. Technology is now bringing that vision closer than ever to the present, with digital immortality being the logical life-enhancing, life-extending opportunity in an era of rapid technological shift. As biology and cybernetics merge, digital duplicates of humans capable of self-awareness and self-actualisation will perpetuate a digital legacy for future generations to interact with.

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<sup>49</sup> Laakasuo, M., Repo, M., Drosinou, M., Berg, A., Kunnari, A., Koverola, M., Saikkonen, T., Hannikainen, I. R., Visala, A., & Sundvall, J. (2021). The dark path to eternal life: Machiavellianism predicts approval of mind upload technology. *Personality and Individual Differences*, 177, 110731. <https://doi.org/10.1016/j.paid.2021.110731>



In video games, once a character dies, it can respawn.<sup>50</sup> With the development of metaverse-adjacent technologies, the possibility of mind upload appears closer. This challenges the notion of death, as a person's essence can be stored in the "cloud" or database systems. It can be postulated that due to the fixity associated with life, human beings tend to be wary of risks that might cause them to lose it. This frame of thought is centralised on the knowledge of the world for those who have lived on the periphery of technological advancements.<sup>51</sup>



**So  
what?**

“  
**This, however, does not apply to digital natives and future generations, with their hybrid upbringing – tangoing between virtuality and reality, their frame of knowledge of what life and death mean will differ. This could manifest in a myriad of ways. They might become innate risk takers and, on the other end of the spectrum, be unaware that death in a sense is the cessation or finality of physical existence.**  
”

<sup>50</sup> (of a character in an online game) to be given another life after dying Collin's Dictionary. (n.d.). Respawn. Collins. <https://www.collinsdictionary.com/dictionary/english/respawn>

<sup>51</sup> People who have lived lives before and through the development of modern-day technologies and the internet



Such frameworks of mental models have the potential to distort or reframe what is considered to be real. The Metaverse/metaverse is inclusive of more than one “reality”. The persistent theory of physical reality in which time x space x matter align will no longer be the only relevant one,<sup>52</sup>

- **Augmented reality**    time x no matter x space
- **Alternate reality**    no time x no matter x space (deep fake)
- **Warped reality**        no time x matter x space
- **Virtual reality**        no time x no matter x no space
- **Augmented reality**    no time x matter x no space
- **Physical virtuality**    time x matter x no space (design simulation, 3D printing)
- **Mirror virtuality**      time x no matter x no space (classroom digital twin)

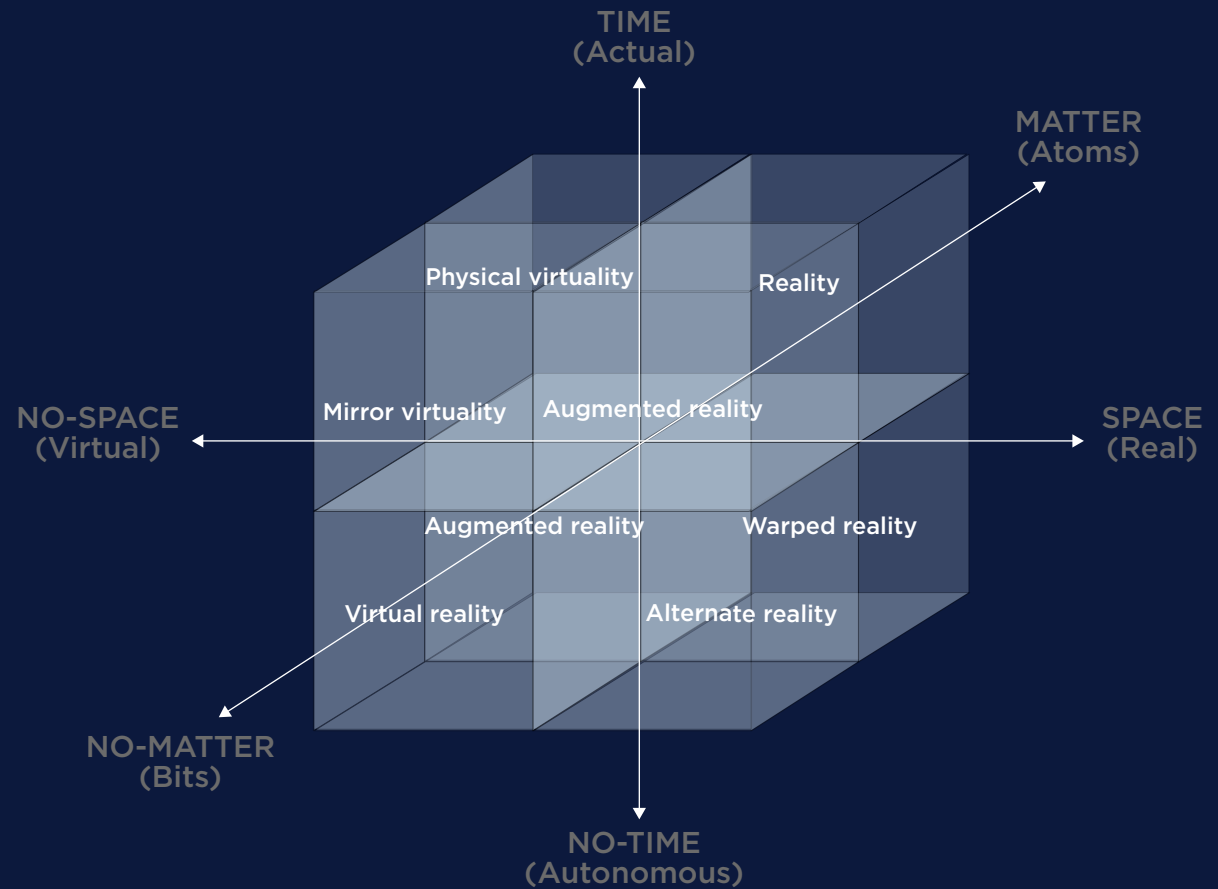


Figure 1. Eight realms, six variables, three dimensions, one multiverse (Pine & Korn, 2011)

50 Pine, B. J., & Korn, K. C. (2011, August 1). Infinite Possibility: Creating Customer Value on the Digital Frontier. Berrett-Koehler Publishers. [https://www.bkconnection.com/static/Infinite\\_Possibility\\_EXCERPT.pdf](https://www.bkconnection.com/static/Infinite_Possibility_EXCERPT.pdf)



# The Unknown Cosmos

Digital technology not only enables new opportunities, new offerings, and new value but can do so by creating entire new three-dimensional worlds. Virtual though they may be – these worlds of exploration, conquest, artistry, and fun generate a myriad of opportunities. And even then, such worlds represent just a small fraction of possibility. The digital frontier is not limited to fixed geographies (earthbound understanding of state of matter/space) to be discovered, but to original offerings one can imagine and create.

It differs also in the number of explorers vying for such opportunities. These explorers number not in the handfuls but in the thousands and tens of thousands – companies rapidly pushing forward the frontier as they innovate new offerings, users/creators that engage in the creator economy. There are potentially no limits to a frontier such as this, for there are no limits to the human imagination.





The majority of this thought experiment has focused on how the Metaverse/metaverse could potentially challenge and disrupt how people sense-make and interpret the world(s) around them. It is now time to turn the tables and question why earthbound frames of reference need exist in this new realm.

Within the confines of virtual worlds, if identity, cultures, economics, morality, etc. can be challenged, deconstructed, and reconstructed, why not the notion of time, space, and gravity? Why must there be “land” as a finite resource on earth? Why must the sun rise and set in a 24-hour mirrored cycle?



Although people are willing to push the limits of “reality”, there are certain areas of knowledge that seem “sacred”, or untouchable. These theories, or these ideologies instill a sense of orientation and knowing-ness – a sense of comfort.<sup>53,54</sup> There is a tendency to gravitate towards what feels familiar – negating cognitive dissonance.<sup>55</sup>


However, if this paper has demonstrated anything other than stretching the limits of the readers’ logical pragmatism, it would be to challenge frameworks of knowledge that somehow filter new information into old patterns of understanding. Imagine a world of boundless opportunities – yes, this includes one where “unquestionable knowledge” is dissected and, if possible, “disproved”.

<sup>55</sup> Cognitive dissonance refers to a situation involving conflicting attitudes, beliefs or behaviours. This produces a feeling of mental discomfort leading to an alteration in one of the attitudes, beliefs or behaviours to reduce the discomfort and restore balance. McLeod, S. (2018, February 5). Cognitive Dissonance. Simply Psychology. <https://www.simplypsychology.org/cognitive-dissonance.html>



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