Not on the same page:

The bleak social health effects caused by Cyberspace in the UK demand a resolution similar to the application of urban parks in the 19th century.

| James Skinner | 180032039 | 15: Superspace | Tutor: Owen Hokins |

Cover:

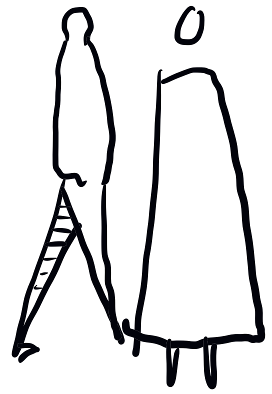
Urban Parks can act as a device to deter people from online oblivion and promote real-world interactions instead. The grainy background image refers to the current distortion between our virtual and physical worlds. The aftermath of COVID-19 alongside the growth of Cyberspace has led to recurrent spatial issues leaving many guessing which world, either online or offline individuals are participating in. However, Superspace technology offers users a world that they can co-exist simultaneously.

Contents

01 Abstract

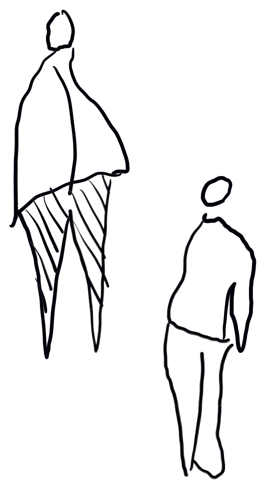
Anchoring around the concept of an Urban Park, a public space ingrained in our urban make-up, this research project will take an anthropocentric overview of the communicative problems faced in Cyberspace, the virtual world we increasingly frequent. Particularly distinct during the COVID-19 Pandemic, our spatial experiences have lost a sense of presence. Social Engagement, as a result, became unnatural bearing discomfort; contrived awkward video calls replaced spontaneity. Ergo, chance-encounters were limited by the mediation of rigid online programmes. In turn, it has a dramatic effect on our health. There is no substitute for face-to-face interactions. Whilst these everyday issues are not directly transferable parities can be drawn with spatial problems evident in 19th century Britain whereby designers first conceived of the Urban Park as a response to the arrival of the Factory in the Second Industrial period. A combination of poor living standards and industrial urbanization brought about its necessity. At this moment, we are at the beginning of the 4th Industrial Revolution of advanced computing. With Facebook recently announcing a two-year $50 million investment and an injection of 10,000 workers into Metaverse technology streams, whether a cynic or not, there is an alarming inevitability and a serious need for responsive design to mitigate the further social issues that an evolved Cyberspace could present.[1] We need technology to serve society rather than self-serving corporations. Who should be allowed to augment our futures? Besides, is there an alternative hybrid space for Metaverse opponents? This body of research sets out to provide a lexicon on the complexities of Superspace. The bleak social health effects caused by the growth of Cyberspace, in the UK, highlight the need for an intermediate space, a Superspace, to draw people back to physical reality. Thereby, this paper will first explore why urban parks were first introduced. Second, will discuss further their benefits. And third, will conclude by, suggesting a solution for augmentation to bridge the chasm between meatspace and cyberspace. This being said, to achieve an affinity, the proposed Superspace would require technology that does not yet exist; however, the argument sits within the framework of contemporary society.

1 Andrew, Bosworth, "Building the Metaverse Responsibly", Meta (2021), <https://about.fb.com/news/2021/09/building-the-metaverse-responsibly/> [accessed 12th October 2021].



"Technology conditions the parameters of our lives at a given moment in time; it doesn't determine our lot, control our fate."

Andy Merrifield in review of Marx's Capitol.



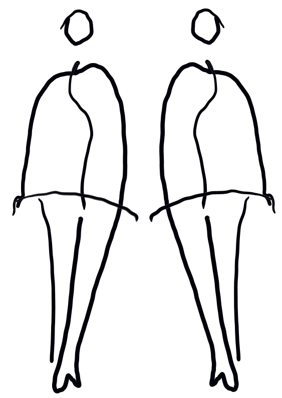


Figure One.

02 Introduction: Dual Presence

What is Superspace?

The term, coined by Owen Hopkins as Superspace, sets out to spatially describe our fused techno-centric world that runs concurrently alongside natural phenomena. Users co-exist within a physical and virtual milieu simultaneously – as if in Christopher Nolan's Sci-fi, Inception (2010), casting a dream within a dream. Yet, in Superspace, users actively participate in both worlds, rather than passively existing in one over the other. Whilst the concept is captured in fiction, Superspace is omnipresent in today's world, through video conferencing, to immersive theatre and gaming. With Cyberspace becoming more and more intertwined within the physical world, the issue of this confused intersecting space must be addressed and further named.

Superspace describes the networks of technological elements that are superimposed intimately, through media, over the natural world. Virtual topographies overlay the physical landscape. It is intermediate space, or more fittingly, the entanglement of the virtual world and Meatspace.[2] Superspace technology creates a clouded division between offline and online worlds. Currently, due to technological limits, Superspace platforms, such as Zoom and Pokémon Go, are accessed through the medium of mobiles. However, the future of this space comes in a more embodied form of Cross Reality (XR). The issue is architectural, albeit in unconventional terms, being a spatial system. Superspace refers to the dimensional layout, and it's the interconnected relationship between the physical and cyber worlds. Like a floor plan in its aim to define the spatial relationship to a wider architectural scheme. In addition, the subject requires the attention of architects because of its multi-faceted demands. The architect's role as a manager makes those in the profession best suited to resolve these complex issues. Thus, those in the industry need to be made aware.

Superspace should not be confused with the headline-grabbing Metaverse, popularised by Facebook. Similar to Cyberspace's relation with the internet, the Metaverse is an equivocal term. Superspace describes the coexistence between the virtual world and the physical world. Users cohabit two spaces simultaneously; it is the "messy space" in-between, writes Hopkins (See Figure Two). Whereas the Metaverse, famously constructed in Neal Stephenson's Snow Crash novel 1992, refers to an alternate setting that exists purely within a digital space. Its original intention describes a fully online immersive simulation in a social environment. Avatars, instead of real-world

[2] Meatspace is a compound noun derived from sci-fi novels, notably in William Gibson's "Neuromancer", whereby the physical in-person world was described as comprising of meat and flesh in opposition to Cyberspace. Accordingly, the term has since become a synonym for the natural world or physical world. Physical reality is something which "when you stop believing in it, it doesn't go away."

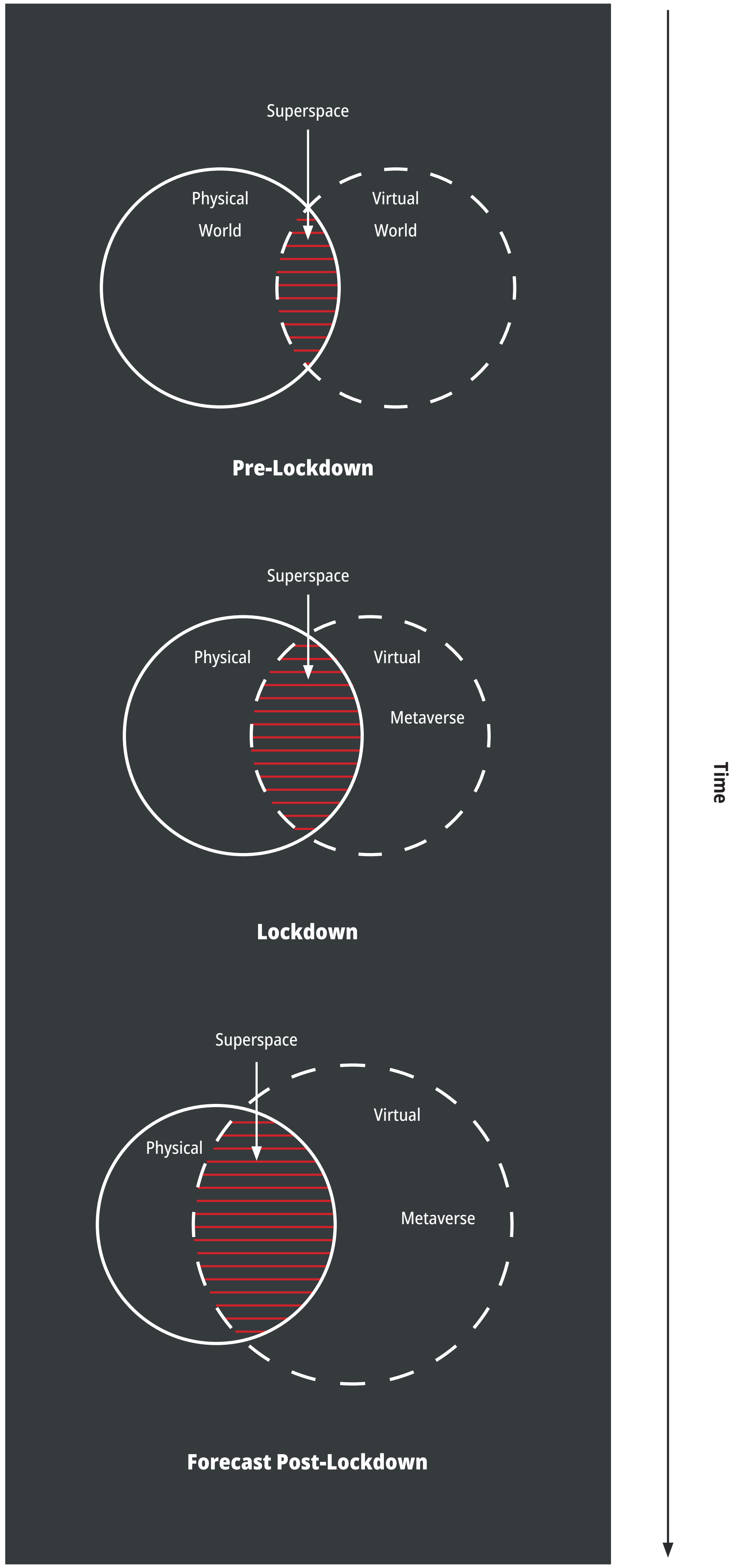


Figure Two:
The progression of Cyberspace, as a result of lockdowns, has led to the growth of this intermediate space; Superspace.

appearances, represent how you want to be portrayed in the virtual world. Although, there is no substitute for human-to-human interaction. "Touch is the fundamental language of connection,"[3] says Dacher Keltner, professor of psychology at the University of California. "When you think about a parent-child bond or two friends or romantic partners, a lot of how we connect and trust and collaborate are founded in touch."[4] In this way, the notion of Superspace, which is explicitly a hybrid space, is potentially a powerful opposition to the fully immersive Metaverse. Superspace technology could potentially draw users out of the virtual and back into the real world as the technology prioritises the sensual world with cyber elements layered over it.

The Growth of Superspace in Lockdown

After a series of lockdowns and pandemic restrictions, since 2019, the online and offline worlds have become imbricated. This

Figure Three: Technology must serve consumers as a whole rather solely big tech corporations.

[3] Megan McCluskey, "Why A Lack Of Human Touch Can Be So Difficult Right Now", Time, 2020 <https://time.com/5817453/coronavirus-human-touch/> [accessed 2nd October 2021].

[4] Ibid McCluskey.

has brought about a rise in the significance of Superspace. Basic human-to-human interactions, traditionally carried out in the physical world, forcibly occurred through the clunky mediation of video conferencing platforms. A considerable proportion of society was affected during the Spring 2020 Lock-down; 37.7% of workers, in the UK, were based solely from home[5].

Superspace is not a new phenomenon, however; the technology and connective infrastructure has been in circulation since the 2010s, though, the Pandemic brought about a dramatic rise in trend. During isolation, social gatherings were bound to online platforms whereby they were mediated through the lens of a screen, rather experienced at first hand. Consequently, there was a considerable technomorphic shift, whereby many spent more time in a virtual reality instead of physical reality; or more crudely, exceeding the amount of time on screen than face-to-face. Despite this, many rediscovered the importance of exercise and time spent in green spaces.

Hereafter, peoples preferences has been for interactions to return to in-person gatherings. Students and employees are being welcomed back to their physical workplace; however, online communicative platforms are still encouraged, due to the dangers of re-infection from the evolving virus. Many noted companies, such as Microsoft, have implemented permanent hybrid working options for employees. And so, the concept of Superspace has never been more prominent. There is a real social issue; Whilst most of the work has permanently been shifted to virtual realms, from my experience as an architectural student, the physical realm has become surreal. Now, people physically share the same space as you, yet are in a different realm – a Zoom call for example. As a result, we are reluctant and anxious to interact for fear of interruption. As designers,we operate in the studios by convention, but often the work could be done remotely at home. Whether digital or not, our work must be shared by uploading to digital collaborative platforms, such as Miro[6], for tutors to comment. Thus, we continuously hop in-between the online and offline to then present our work in Superspace; Often in-person tutorials require you to scroll through Miro to display work to peers and tutors. I'm certain we as students are not alone. This cumbersome back and forth indicates there is a spatial deficiency. We lack a threshold between the online and offline worlds.

Acknowledging Fate

Accordingly, this paper acknowledges a clear fate. Cyberspace is here; it will inevitably have a greater influence in the near future. We must design new and remould existing infrastructure to accommodate this modern technology to not only mitigate the potential social implications but to optimise

[5] Ruth, Davis. Coronavirus And The Social Impacts On Great Britain. (London, 2020) Office For National Statistics.

[6] Miro is a digital collaborative whiteboard that allows teams to visually share work.

it for its user-base. This paper urges that a Superspace Park needs to extend the public ethos of the park into cyberspace as opposed to the detached digital detox space of the conventional park. It is important to note that without industry there would be no parks. And conversely, without parks, the implications of industrialisation would suffer a bigger backlash.

Parks today highlight the stark distinction between the offline and online worlds. With this being the case, we can tailor technology to apply a more humanist approach. Marx is true to affirm that "Technology reveals the active relation of man to nature."[7] "Technology conditions the parameters of our lives at a given moment in time; it does not determine our lot, control our fate. Technology may be benign in itself, and commercial proponents of technology always happily insist upon it; but because, in human society, there is no such thing as "in itself," technology can never be benign. Its development over time has been something of a revealing social process."[8] It is not technology alone that is inherently bad, but rather, how it is applied can make it noxious. With the arrival of the 2nd Industrial Revolution, the introduction of the factory bought about what is known today as the modern Urban Park. Similarly, we are currently faced with health problems arising from technological advancements. Therefore, akin to 19th-century urban planners, we must conceive of a new social infrastructure that negates the issues faced, like the implementation of the park. We must also utilise technology so that it serves the consumer rather than solely big tech corporations; Further negotiations, between private and public space, are needed to be addressed. Accordingly, a holistic design approach must be taken. This thesis will study the creation of Public Green Spaces and explore their benefits, before proposing an augmented Superspace "Park" to promote people to change the focus away from the virtual realm. Using Cross Reality (XR), biophilic design principles should be adopted when designing Superspace to highlight the importance of the natural world and enhance our intimate experiences in meatspace.

[7] Karl Marx, 'Chapter 15 Machinery and Modern Industry.' in, Capital (Oxford University Press, 2008).

[8] Andy Merrifield, "Marx, dead and alive: reading Capital in precarious times". (New York, Monthly Review Press, 2020), p63.

03 Social Engagement: The Modern-day Issue.

Interactions Have Become Impersonal:

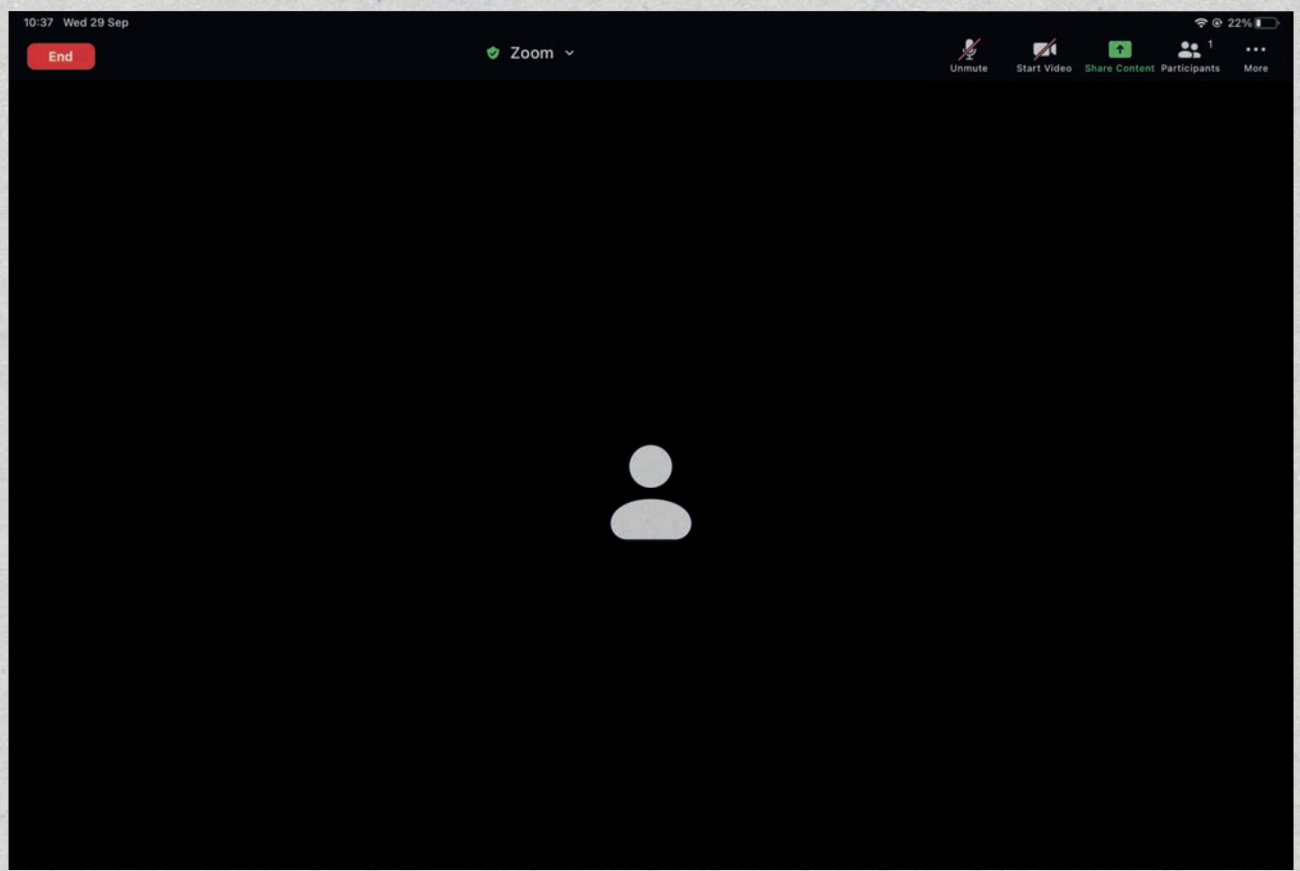


Figure Four: The familiar Zoom interface we have all had estranged interactions with.

Interactions have become impersonal. In one capacity, impersonal, as online communicative streams are uninfluenced by personal feelings. Tactile experiences have been muted via digital mediums. They lack meaning and richness; whilst language can be effectively expressed, emotion is harder to convey and translate through these social platforms due to the ability the users have, to mute and stop the camera. In turn, making each Zoom call difficult to distinguish from the next. Another lecture with hundreds of black default icon screens whilst the lecturer questions "can you see my slides...?" Meanwhile, the class sits disengaged, at home on their beds, miles away from the lecture alongside their peers they have yet to meet. They have no idea what is facing them on the other side of the screen. These online Interactions are generic; Rem Koolhaus is correct in stating: "The Generic City is what is left after large sections of urban life crossed over to cyberspace"[9]. Our Over-consumption of digital media has led to conventional haptic experiences becoming sedated, compared to pre-isolation; We often found ourselves fantasizing of our previous norms to fill our sensory gaps. Humans need to touch and to be touched, for example. "Touch is a modulator that can temper the effects of stress and pain, physical and emotional," says Dr Katerina Fotopoulou, a professor of psychodynamic neuroscience at University College London.[10] As a consequence, we are so digitally connected, through Wi-Fi and mobile devices, we have become socially and physically disconnected.

In another capacity, communication is impersonal because interactions do not physically exist face-to-face but through distant communicative streams. We appear to talk to our mirrored self rather than another real-view face. So, we are continuously receiving instant feedback and self-evaluating our individual image. Moreover, virtual interactions are hyper-saturated conversations; Recipients can only hear what the microphone picks up. Out of their control, they can only see what the camera's capable of capturing and the graphic capability of their devices. In addition, Users can manipulate interactions out of their supposed context. We take screen-shots, alter the volume of conversation and add filters. Meanwhile, text exchanges have replaced talking; emojis have supplanted emotions. Whilst the number of different social media platforms has increased, so too has the feeling of loneliness. On this account, online interactions are artificial and lack fertility. Supplementary, all these potential limitations are bound together by the necessary utility service: Wi-Fi. Individually, through my student house's poor Wi-Fi, I have been met countless times by a buffering or pixelated screen as I try to explain to my Mother the events of the day. After the third repetition, met with frustration, my day certainly does not get any better! Meanwhile, my innocent Mother has been snarled at for no fault of her own. Instead, we often revert to the more conventional phone call. Thus, the more qualitative the interaction online, the more demanding the computational requirement. The richest conversations call for the most modern technology, however, that will come at a financial cost. Infrastructure as a consequence needs to improve to facilitate an evolving ubiquitous Cyberspace.

[9] Rem Koolhaas et al, Small, medium, large, extra-large: Office for Metropolitan Architecture, ed. by Andrea E. Monfried (New York: Monacelli Press, 1995), p.1250.

[10] Eleanor Morgan, Lost Touch: How A Year Without Hugs Affects Our Mental Health (2021), The Guardian <https://www.theguardian.com/lifeandstyle/2021/jan/24/lost-touch-how-a-year-without-hugs-affects-our-mental-health> [accessed 10th June 2021].

Positives of Cyberspace: in the state of Lockdown

Of course, Smart Technology success must be acknowledged, throughout COVID-19 restrictions and further, it allowed many of us to continue our livelihoods remotely. According to Ofcom, 13 million people used Zoom, and 6.5 million people used Microsoft Teams in April 2020 alone.[11] As a social experience, you can share memories, exchange ideas, conduct business and play games, to name a few. The more personal social interactions were experienced over video conferencing platforms – an elementary form of superspace technology. Visual communication spanned across geographical boundaries, replacing the need for workers to commute to a centralised workspace whilst they could enjoy the comforts of home life. An ideal solution for an international world, plagued by a pandemic, suppressed into the locality. Or so it seemed. Cyberspace today, comprised of Internet 2.0, is omniscient; it is fundamental to everything we do. Krisof Terryn, writing for the World Economic Forum, in 2019 states "the combination of connectivity, mobility and data exchanges present boundless opportunities". Akin to the advancement of humanity with the Apollo 11 moon landing, further technological "success will require the same ingredients: public-private collaboration and a focus on security and protection against the risks."[12]

Effects of Cyberspace on the Private Realm: in a state of Lock-down.

However, Terryn's phrase "public-private collaboration" is plainly over-optimistic to imply the two sectors must work alongside one another harmoniously to achieve technological success. Whereas, spatially speaking, this does not seem to have been the case with Cyberspace, at its zenith during lockdowns. What was traditionally considered private can be made public by the click of a few buttons. The Private is constantly in a trade-off with the growth of Cyberspace. Jürgen Habermas' defines the Public Sphere as a "theatre" by which "participation enacted through the medium of talk"[13]. Put simply it is a free deliberative space for discussion. Yet it further provides "specific means for transmitting information and influencing those who receive it". Thus, Habermas' definition still applies in abundance on social media platforms. However, the modern context is vastly different. To influence someone, remote text exchanges have replaced in-person talk. Habermas refers to 18th century Coffee Houses as an example of public space. But yet, our public spaces predominantly today are virtual and omniscient; they no longer have geolocation and can be accessed anywhere. Besides, online media platforms offer anonymity that empowers people to say what they would never say in person. Hence, anyone who is anyone can cast judgement without accountability. The Public Sphere has become too dominant. An imbalance is now in place.

[11] Unknown, UK's internet use surges to record levels (2020) Ofcom <https://www.ofcom.org.uk/about-ofcom/latest/media/media-releases/2020/uk-internet-use-surges> [accessed 8th October 2021].

[12] Kristof Terryn, "We Are On The Edge Of A New 'Cyber' Space Age. This Is How We Make It A Success", World Economic Forum (2019), <https://www.weforum.org/agenda/2019/03/from-the-space-race-to-cyberspace-public-private-collaboration-is-the-key-to-success-heres-why/> [accessed 3 October 2021].

[13] Jürgen Habermas, The structural transformation of the public sphere: an inquiry into a category of bourgeois society. (Cambridge: Polity, 1992) pp. 287 – 312.

The digital public sphere has become obtrusive into our physical private spaces. Our mobile phones are the first thing we see when we wake up and go to bed. Sir Edward Coke's maxim: "A man's home is his castle" is under siege. Our homes are no longer our impassable castles and fortresses. Mobile phones, a medium of Cyberspace, are the modern-day paradigm of a Trojan Horse; Internet Trolls can inflict maximum damage by penetrating our homes and our private spaces via a simple comment or text, received online by our phones. Abuse received at home, the inner wall of our fortress, is the worst felt because it is where we are at our most vulnerable. Therefore, there is no collaboration but instead a separation in an agency; in whose interests do our devices serve?

And hand in hand, Cyberspace has surpassed Meatspace. Our screen time increased by 65%,[14] with many of us, in the UK, on average spending 7.2 hours a day operating on digital platforms alone.[15] And so, our digital consumption denotes an over-reliance on a capsular driven world. There, consequently, is no surprise why so many people are increasingly suffering in Cyberspace. The issues outlined above have amounted to significant health implications across UK households. As philosopher Henry Thoreau in 1845 prematurely stated, society has "become tools of their tools."[16] He argues whether material objects provide a "necessity of the soul." "Many of the so-called comforts of life are not only not indispensable, but positive hindrances to the elevation of mankind." Our mindless tech consumer behaviours have become

Figure Five: Absorbed by Our Screens. The average person spent 7.2 hours a day on digital platforms during Covid-19 restrictions.

[14] Saša Pišot et al, Maintaining Everyday Life Praxis in The Time Of COVID-19 Pandemic Measures (ELP-COVID-19 Survey)(2020), European Journal of Public Health <https://doi.org/10.1093/eurpub/ckaa157> [accessed 6th October 2021].

[15] Lee Smith, The Association Between Screen Time and Mental Health During COVID-19: A Cross-Sectional Study (2020), Psychiatry Research <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7382341/> [accessed 20th June 2020].

[16] Henry Thoreau, Personal Journal, Vol 2 (1845) pp.158-167 (p.162.).

[17] Michael Daly, et al, Longitudinal Changes in Mental Health and the COVID-19 Pandemic: Evidence from the UK Household Longitudinal Study, Psychological Medicine (Cambridge University Press, 2020).

"Parks Matter. Contact with the natural world is a life saver in our frantic, pressured lives. The fresh air, the cool shade of the trees and the sights and sounds of wild-life inspire us to walk, to meet friends, to reflect and to relax."

Stephanie Hilborne OBE, Chief Executive, The Wildlife Trusts.

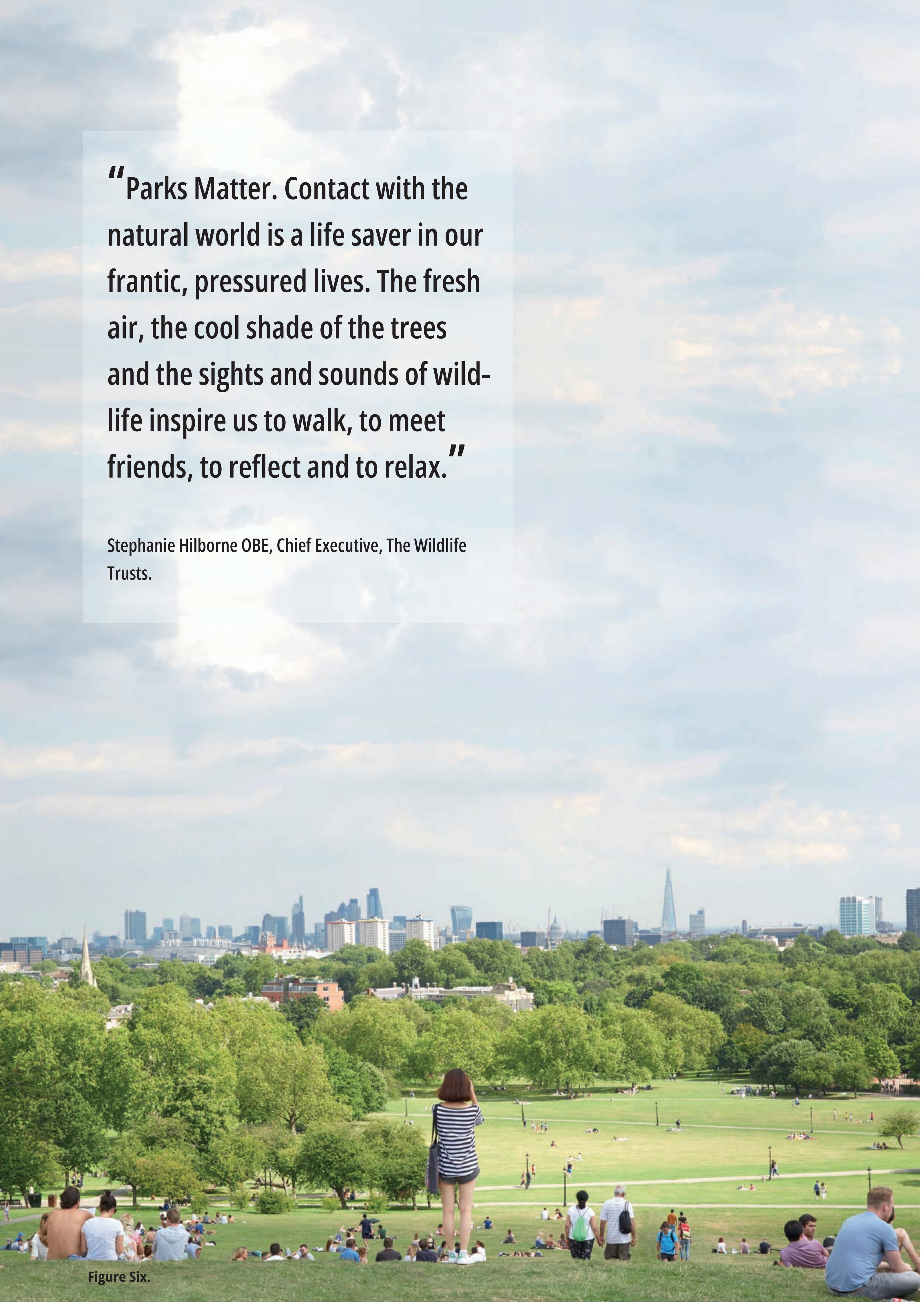


Figure Six.

machine-like. We choose to operate statically in sensory-numbing capsules. As a result, the lack of genuine qualitative interactions and experiences have led to a dramatic spike in physical and mental health issues, particularly for younger generations: "UK Younger adults (aged 18–34), in 2020 Lock-down, experienced an 18.6% increase in the risk of mental health problems, since 2019".[17] Whilst the rate has decreased, it still has not returned to pre COVID-19 levels. Altogether, referrals to child and adolescent mental health services in March 2021 were 68% higher than the previous year. Mental Health waiting lists for clinical help have exponentially risen. Dr Hayley van Zwanenberg, a consultant in child and adolescent psychiatry at the Priory Group (July 2021), stated: "My waiting list used to be between two and six weeks...but the numbers have increased exponentially, and my waiting list is now three to four months. It's never been so long."[18]

In defiance of the effects of inactivity, people re-fashioned how they went about their daily routines in Lock-down. Urban Parks became a particularly invaluable breakaway from our Virtual Reality. The conventional park is a digital detox space. Beyond, parks sustain broader social functions. Therefore, seismic technological changes require a greater understanding of what is meant by a park.

04 The Pre-eminence of an Urban Park

The Modern-day Value:

Without parks, industry effects on public health would be more detrimental. In 2019, a colossal 37million, 57% of the UK population, regularly used Public Parks.[19] Often overlooked, parks are fundamental to municipals; they make up the social fabric of our communities, ubiquitous across rich global cities today. For residents of an urban concrete jungle, a biodiverse park provides more than just a place for a walk; it is a classroom, a disinfectant to pollutants, an outdoor gym, a seasonal changing gallery, a community forum, a temperature control, and an oasis away from our frantic and pressured lives. Nonetheless, urban parks have transformed to become the contemporary pleasant green pastures we are accustomed to. The urban park today is not only a hiatus from the clamour of the city but more recently, associated as an escape from the online world.

And so, parks have become more valuable in our digital era, catalysed by COVID-19 restrictions. In the UK, 87% of people, in an urban environment, live within a 10-minute walk away from a public park or garden.[20] And a further 67% of adults, in July 2020,

[18] Amanda Hill, Young Mental Health Referrals Double In England After Lockdowns, (2021), The Guardian <https://www.theguardian.com/society/2021/jul/15/young-mental-health-referrals-double-in-england-after-lockdowns> [accessed 5 November 2021].

[19] Ros Kerslake, "The State of UK Public Parks", Heritage Lottery Fund, (2016), 1-36 (5).

[20] Niloofar Shoari, et al, "Accessibility and allocation of public parks and gardens in England and Wales: A COVID-19 social distancing perspective." PLOS ONE (2020) <https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0241102> [accessed 10th October 2021].

visited their local park during UK Lock-down.[21] There is a growing demand for Biophilia[22]; a term conceived by Edward Wilson to describe our instinctive affinity towards living systems. He argues, through our biological make-up, humans have an allurement towards other living organisms, and further, happiness is overtly imbued when we encounter intimate interactions with nature. The rise in trend is predominantly due to our digital capsules, showcasing hyper-artificial media, that disconnect us from ecology. There is no other artificial world that can replicate the multi-sensory experience of nature, nor will there ever be. Hence, phenomenology in parks plays an increasingly vital role in re-strengthening our relationship with green environments. Studies from The Royal College of Psychiatric affirm "individuals have less mental distress, less anxiety and depression, greater well-being and healthier cortisol profiles when living in urban areas with more green space compared with less green space."[23] Nature, consequently, has restorative powers for its inhabitants.

In agreement, MP William Pitt famously personified parks as the "Lungs of the city[24] whilst addressing Parliament, this chapter will argue further in stating that parks are the life of the modern city. Greenspaces have become the heart of a desired urban setting. Thus, I will delve into how the modern park has progressed from its origin.

Origin of the Park

Like many architectural inspirations, the origin of greenspaces evolved from Ancient Rome, whereby rural benefits were widely recognised to create a better quality of life. A particular example to note is Emperor Nero's, Domus Aurea. "The Golden House," translated from Latin, is reportedly the first landscaped park for public use. Comprising of many features still found today, nearly 2000 years on, pavilions, fountains, trees, artificial lakes, and porticoes made up the sanctuary. Due to its scale, it quite literally bought the countryside into Rome. Replacing hundreds of acres of urban sprawl destroyed by fire, Nero's Palace and grounds refitted the central area of Rome. Consequently, the phrase "rus in urbe," the countryside in the city, is widely used by critics in the commentary of new green developments that create a rural illusion inside an urban setting.[25]
The implementation of public parks in the UK evolved from green squares in efforts to bring in the rus in urbe. Green Squares are tightly controlled retreats, away from

[21] Ruth Davis, Coronavirus And The Social Impacts On Great Britain (2020), Office For National Statistics <https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/healthandwellbeing/bulletins/coronavirusandthesocialimpactsongreatbritain/10july2020> [accessed 4 November 2021].

[22] Edward O Wilson, Biophilia (Cambridge, MA: Harvard University Press, 1986).

[23] Jo Barton and Mike Rogerson. 'The importance of greenspace for mental health', BJPsych International (2017), 14: 79-81 (79).

[24] William Windham, "Speeches in Parliament: Of the Right Honourable William Windham", Speeches of Parliament, 3 (1812), 1-427 (131)

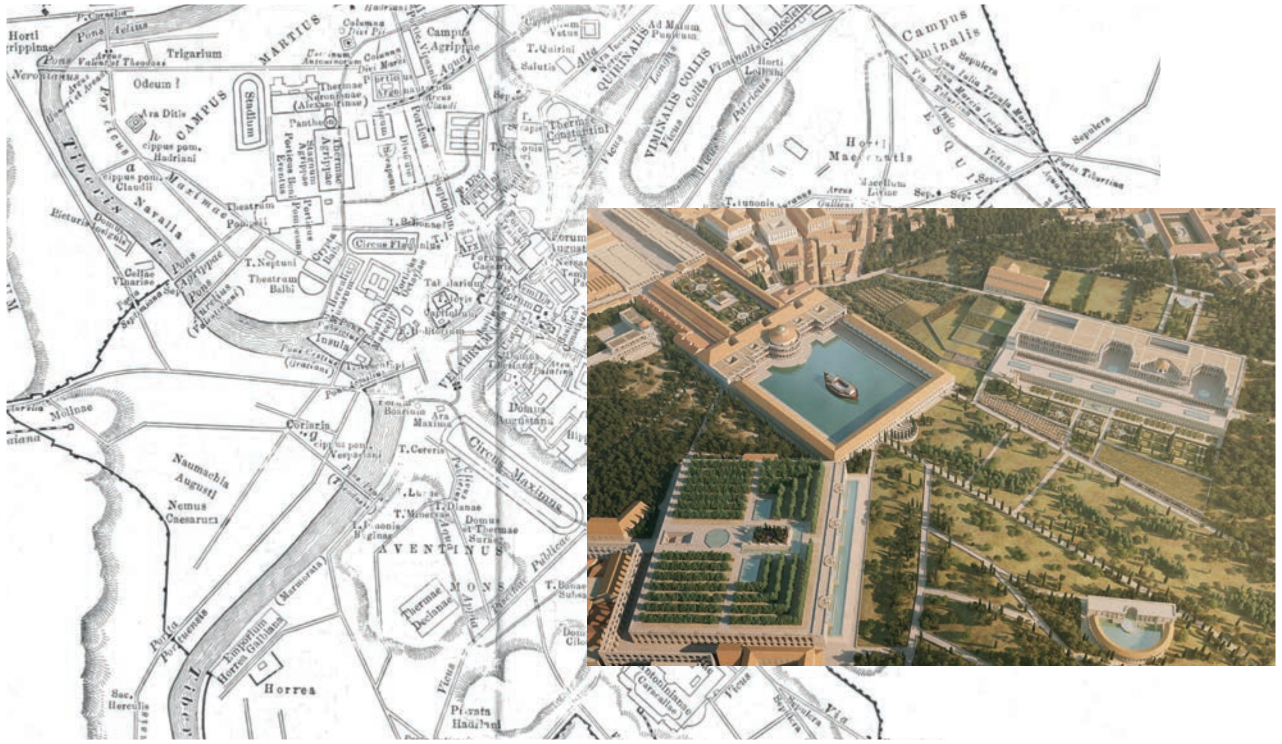


Figure Seven: The countryside in the centre of Rome, commonly known as the founding "Rus in Urbe". A digital reconstruction of Roman Emperor Nero's Domus Aurea 68AD layered over the city of Ancient Rome.

the urban sprawl; Rather than a member of the city, squares are dissociated retreats. They are privately accessible public gardens that serve a semiotic purpose of wealth. For example, the creation of St James square, 1726, was exclusively for local residents and to be used "in a becoming and graceful manner." [26] However, trespassers were fined a significant £50. "Enclosed by railings and surrounded by houses... These green enclaves are among the most distinctive and admired features of the metropolis," writes landscape architect Todd Longstaffe-Gowan.[27] Thus, green spaces created in the 18th century were intended for the middle-class who were privileged enough to afford them.

Steadily, the bourgeoisie opinion progressed; Green Squares developed into democratised urban parks alongside the Hygienist Movement. The introduction of the factory in the 2nd Industrial Period brought about clouds of intense pollution and poor sanitation, creating dire living conditions for workers. The population of cities rapidly grew as people were drawn in by the monetary incentives; people lodged

[25] Irene Iacopi, Domus Aurea (Milano: Electa: Milano, 1999).

[26] In 1726 an Act of Parliament constituted Trustees to maintain and beautify St James Square and to raise rates to finance their activities.

[27] Todd Longstaffe-Gowan, The London Square: Gardens in the midst of town, (New Haven: Yale University Press, 2012).

in tight and narrow streets as they tussled for space. The divide between the town and the rural grew; They were two contrasting worlds. Taking recreation and exercise in the fresh air became a scarce resource for the populous. Buildings and enclosures were spread frequently through the city. Consequently, intense disparities in the quality of life between rich and poor became deeply entrenched. This led some of the bourgeoisie to empathise with workers living amongst the malpractice of inequality in the city streets. Therefore, many became philanthropists by donating to their local communities.

Derby Arboretum: Founding intentions

A key example was the foundation of Derby Arboretum in 1840; it is commonly referred to as the UK's first public park after the former landowner, Joseph Strutt, donated and deliberately designed the land for public consumption. He did so as an act of gratitude to the people of Derby for their help in his family's mounting fortune. Strutt's reasoning was twofold: first, to provide an area for "exercise and recreation in the fresh air" away from factory pollution; and second, to cater for all social classes "the means of instruction" through a diverse botanical garden for trees, an arboretum. Although to pay for its upkeep, the 11-acre site interestingly charged a tariff initially. However, admission omitted charges on Wednesdays and Sundays. It was 6p for an adult and 3p for a child admission, making it unaffordable for workers with an average wage of one pound a week.[28]

So, the Park was predominantly used by the more prosperous members of Derby society, eluding the original humanist intentions of the parks creator; the Park became a semi-inclusive place rather than public. This contradiction was not addressed until 1882 when the park scrapped its admission fee after vehemently contested legal battles shifted responsibility from donors to local authorities of whom were centrally funded by taxpayers.

Politics Advancing Change

Political developments have enabled the park to progress into the valuable civic spaces in which they are acclaimed today. Bought about by philanthropists and politicians, the 1833 Report of the Select Commission on Public Walks influenced authorities to advocate for the future arrangement of public parks into urban developments.

It determined a remit to "consider the best means of securing open spaces near populous towns."[29] Consequently, Urban parks were later installed throughout the 19th century in urban environments.

And further, the aftermath of the Politics that surrounded WW2 surprisingly led parks to evolve, whilst most of the UK's infrastructure and institutions were devastated

[28] Joseph Strutt et al, The Derby Arboretum (Longman, Orme, Brown, Green & Longmans, 1840).

[29] James Slaney, Public Health, (House of Parliament: Select Committee February 1833) in HANSARD 1803–2005. <https://api.parliament.uk/historic-hansard/commons/1833/feb/21/public-health> [accessed 3rd November 2021].

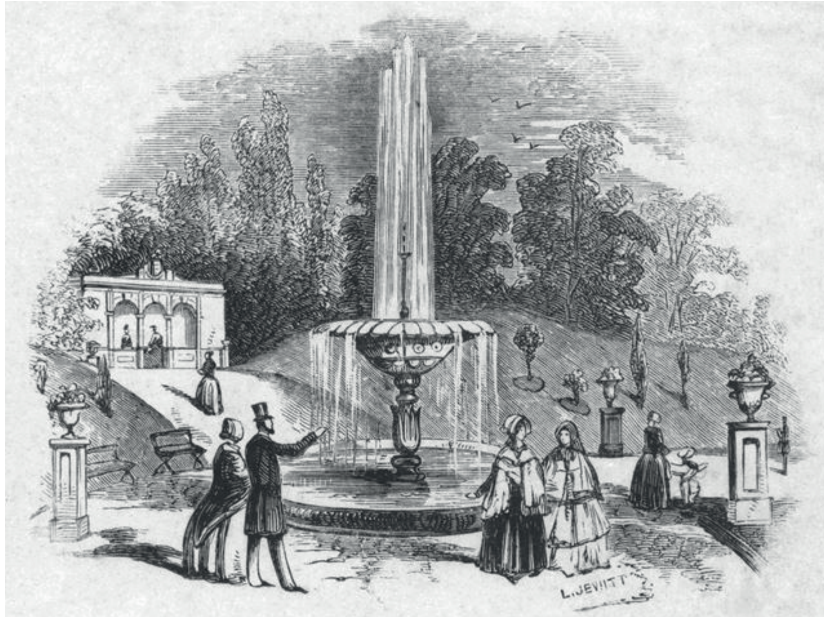


Figure Eight:
Derby Arboretum through the three centuries since its opening: High society frequented the park in 19th-century (Top). The park was at its peak of its maintainence in 20th Centruy (Middle). Whilst, today the arboretum is a mature rich scerenity away from digital life (bottom).

following the destructive bombing raids. Ironwork that once gated greenspaces were melted down for its resource to contribute to the war effort. Consequently, many green squares, in particular, were no longer guarded off from the rest of the city; private control of these spaces had momentarily been lost. Albeit, this egalitarianism did not last as iron fences were reinstalled post-war. However, in some green spaces, like Malet Street Gardens in London, they were never retrofitted. George Orwell called the events "democratic gesture"[30]. Subsequently, with the introduction of the new public culture, comprising of the preface of the welfare state, after WW2 these green spaces became more accessible to the average folk. These newly adopted civic spaces became broader icons of a more energizing and democratic public culture.

The Main Challenge to Parks: Funding

Since the foundation of the modern park, urban green spaces have become wholly democratised, maintained by local authorities. There are around 27,000 parks in the UK all of which are subject to government funding.[31] As discussed, green spaces are pivotal to societal health for city dwellers. However, this fact is disproportionality supported by financing from government

Figure Nine: Malet Street Gardens in London is frequented today by local students, having been democratised post-WW2 with the removal of the iron fencing which lined its perimeter.

[30] George Orwell, "As I Please", Tribunal (1944) 1.

[31] Kim Thomas, Who runs public parks and are they in danger of privatisation? (2015), The Guardian <https://www.theguardian.com/public-leaders-network/2015/jun/26/who-runs-public-parks-danger-privatisation> [accessed 5th November 2021].

budgets. 92% of park managers have reported cuts to their budgets over the past three years.[32] So, recently there has been a trend: as more people frequented these public spaces, funding, in turn, decreased, leaving parks inadequately maintained and falling into disrepair. Thus, 90% of UK parks are forced to have "friend groups" which predominantly rely on corporate and individual donations. Lottery funding has contributed to a large proportion of park funding. The National Lottery Heritage Fund (HLF), alongside the Big Lottery Fund (BLF), has donated over £700million to park renovations. Although, more significant funding is required; In fact, £5.5bn more is needed according to a recent National Trust Report due to the financial stresses of the Covid-19 Pandemic.[33] Thus, funding this public space historically has been, and continues to be an issue.

Furthermore, the toils of the pandemic have uprooted deep inequalities amongst our cities. Some alarming statistics are arising from the National Trust's UK report; There are "295 deprived neighbourhoods of 440,000 people (about the population of Bristol) that are grey deserts, with no trees or accessible green space."[34] And again, "In the poorest 20% of households, 46% don't have a car, so urban parks and green spaces are their only opportunity to have contact with nature, rural beauty spots are beyond reach." [35] Evidently, the issue lies with public infrastructure that is failing to connect people to parks. Besides the more palpable yet expensive infrastructure solutions, such as new roads and trains, Superspace technology can be used to bring these spaces to the user. Of course, green spaces cannot be replaced. Superspace software, however, could perform some of the functions of a park, such as a place of play, to our concrete streets. Augmented Reality, for example, could be used to creatively navigate users to green space in a playful setting. Instagram filters have provided just that with overlays created by artists for users to interact with their surroundings.

In short, in its most basic understanding, the public ethos of a park should provide an elementary template to carry forward into the hybrid online and offline world. And so, we should learn from its evolution to determine how to curate a space that sustains all walks of life - something non-detrimental.

> **"This Park belongs to the people of East London, if you harm it, you harm them."**
>
> \- The Bow Neighbourhood Signpost, North London.

[32] *Ibid* Kerslake Heritage Fund, p5.

[33] Unknown, New research shows £5.5bn funds needed to level up to access to urban green space as part of UK's green recovery (2020), National Trust <https://www.nationaltrust.org.uk/press-release/new-research-shows-55bn-fund-needed-to-level-up-access-to-urban-green-space-as-part-of-uks-green-recovery> [accessed 12th October 2021].

[34] *Ibid* National Trust Report.

[35] *Ibid* National Trust Report.

> **"Instead of having devices that take us away from the people around us, the next platform will help us be more present with each other."**
>
> - Mark Zuckerberg

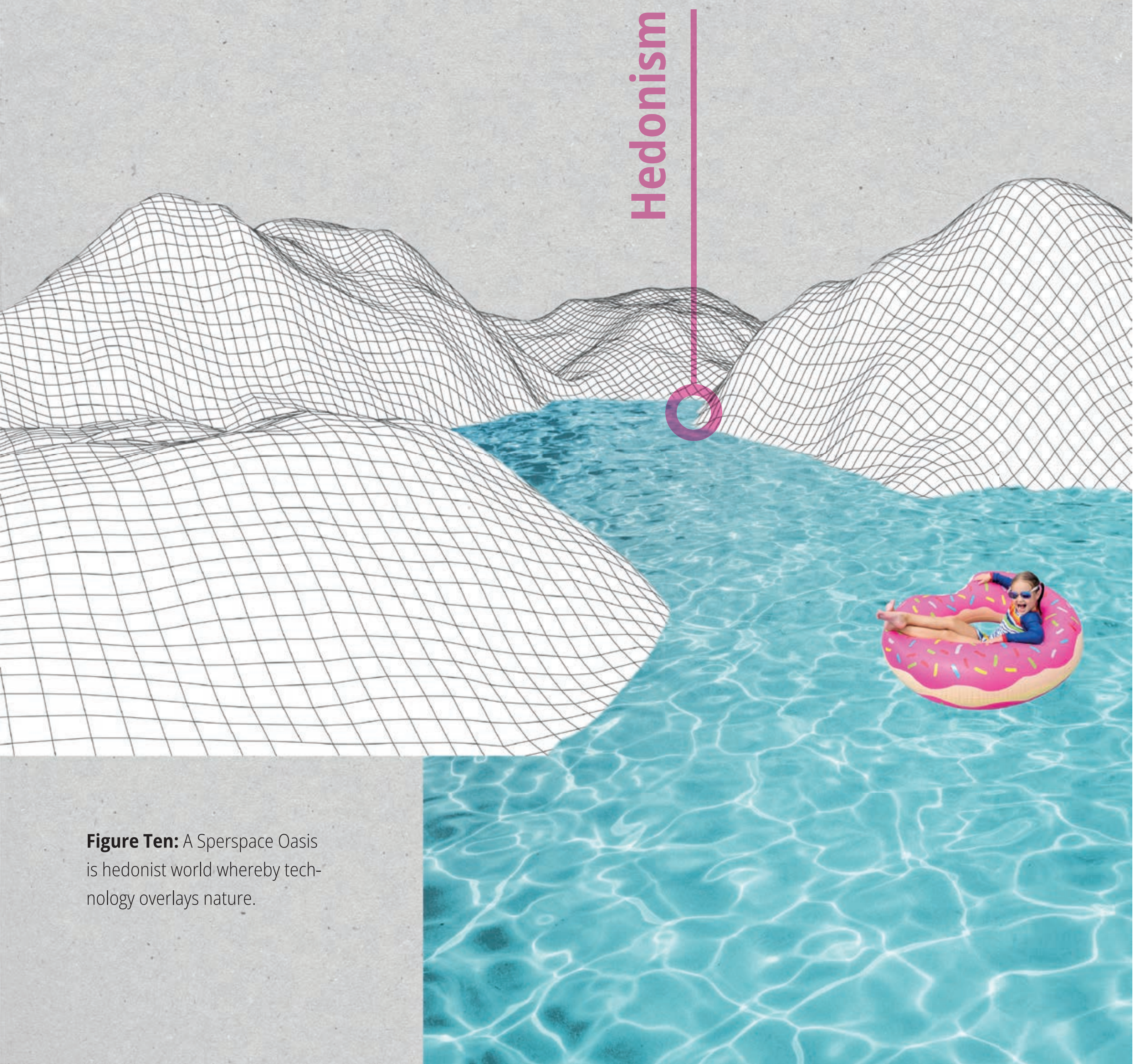


Figure Ten: A Sperspace Oasis is hedonist world whereby technology overlays nature.

05 A Superspace Oasis:

Imagine...

Envisage a world whereby individuals would never have to leave material reality, or alternatively, the online layered over the physical elements of the offline world. Everyone's attention would not be diverted by virtual distractions and remain amongst natural sensory fields. All the functions and ethos of an urban park could be carried forwarded into superspace. Anonymity would be as weird as hiding in the bushes, the action of playing would become decentralised, the streets could become sports fields through fitness applications, knowledge would continue to be dispersed interactively across streetscapes – all whilst importantly enjoying the sun against the skin incensed by the smells of the natural world.

Imagine a meeting whereby conventional drawings could become three-dimensional representations as they hover, simultaneously in the physical world, across the table as the next building development is proposed to holograms of investors cutting across time zones. Or, a superspace software that guides you to fix an issue with your car. Whilst actively staring under the bonnet, you are simultaneously tutored by a virtual overlay to repair the issue, through the lens of your glasses. If the car parts are beyond repair, the software will notify you. Meanwhile, your geolocation could be sent to a mechanic alongside a full diagnosis report. An infuriating problem could be resolved in minutes instead of hours. Whilst these examples appear to be concepts from science fiction, they are not revolutionary. They are derived from existing technology that needs tailoring to become user-centric.

This chapter will evaluate user-destructive virtual technology, that exists today, and its estranged relationship with the utopian manifesto set out by the pioneers of the internet. It will analyse why these spaces are so destructive. Thereafter, I will explore examples of biophilic design whereby technology corporations are posing positive change; the potential of these Superspace platforms will bridge the chasm between the online and offline worlds. And further, the chapter will assess the main spatial design responsibilities of the future.

What is a Superspace Oasis?

As described by the narrative above, a Superspace Oasis is a pleasant world whereby users exist physically and ineffably simultaneously. The concrete definition of an oasis refers to a fertile area in a desert where water, the rudiment to life, is found. Applying this metaphor to Superspace, the tactile dryness of the desert is cyberspace. Whereas, the genesis of water is our physical reality (see Figure Ten). This liminal space is an offline and online natural hiatus, derived from an Urban Park, that promotes a close relationship between nature and technology, whereby tech is implanted over physical reality; Its aim is not to succeed the traditional green spaces, but instead, to act as a pull for people to be drawn out of the virtual realm and encouraged to revert to reality. Architecturally speaking, it is as if you were to knock down a dividing wall between two spaces to create an open-plan layout. Alike open-plan rooms, literal and figurative barriers are broken down to promote a more productive hub of communication and collaboration.

Cyberspace Today is Estranged from its Pioneer's Intentions

The 20th century Cyberspace creators had the same utopian intentions as the creators of the Victorian parks. The World Wide Web (WWW), developed by Tim Berners-Lee, was intended as "a common information space in which we communicate by sharing universal information."[36] 30 years after its creation, akin to the park's development, ownership of this public space has led to constant debates between the public and private. Whilst the health of the Urban Park's constitution sits at a cross-road due to funding, so too does Cyberspace. However, unlike the former, the latter is receiving millions in further investment as private corporations seek to control it.

Warily, from Google's ARCore to Facebook's Metaverse and Apple's Augmented Reality, many big tech firms are in the process of developing their cyber realities, the modern-day gold mine. These corporations will become omnipotent because "literally and metaphorically, augmentative mediators by definition impose themselves between the wearer and the world".[37] Thus, when reviewing future tech, you must consider its agency and who benefits from its implantation. A great example of this is tech giant, Mark Zuckerberg's recent efforts to push his re-packaged Cyberspace tech, Metaverse, as an evolutionary internet as well as a new direction for his company, formally Facebook now Meta. He describes the tech as the "embodied internet" and has forecasts the technology to supersede the 2D internet we know today (Internet 2.0). Instead of just viewing online content, you are in it and experience it alongside other people. The prefix "meta", meaning beyond, and the suffix "verse", an abbreviation of the universe, fittingly denote the tech giant's clear dominant intention for the future of cyberspace.

The Metaverse promises to be an all-consuming, all-encompassing virtual platform that will extend our current capabilities concerning relationships, work, commerce, and entertainment, all defined in the cyberworld. However, the prefix "meta" can also mean something referring to itself. Thus, this reading implies that the Metaverse seems to extend Facebook's enclosed private square approach, and in turn, extend its control of another semi-public space that private people frequent, profiteered by a large corporation. Facebook's ambition should raise

[36] Tim Berners-Lee, interview with Alexandra Ossola (Quartz: London, 2019) <https://qz.com/1618993/tim-berners-lee-thinks-we-can-still-fix-the-internet/> [accessed 10th November 2021].

[37] *Ibid* Greenfield, p.78.

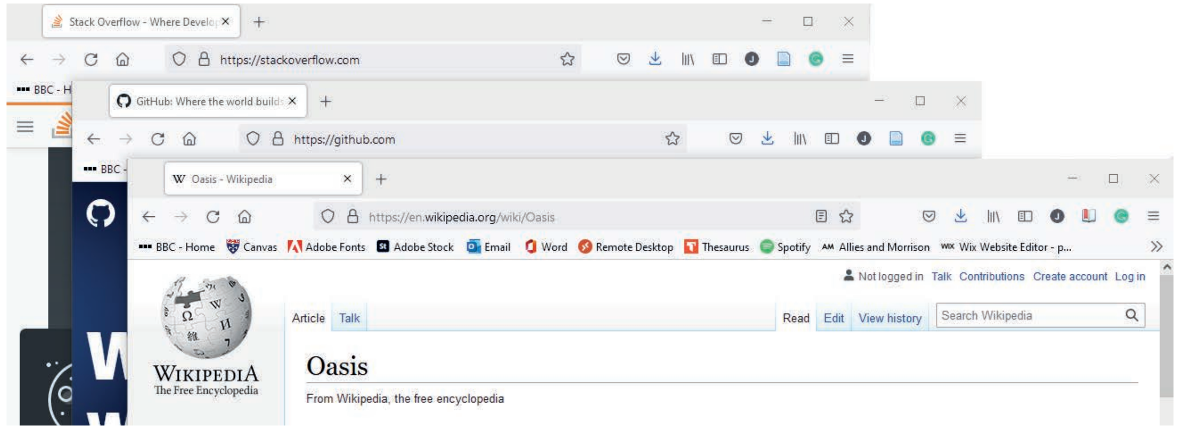


Figure Eleven: Democratised open source web pages, such as Wikipedia, Github and Stack Overflow, decentralise the control that big tech corporations have over users.

palpable concern as one company alone cannot create the evolving cyber-universe. Furthermore, the guarded space only entrenches our Capsular Civilisation[38] further; Big tech firms have constructed their ecosystems for users to rely on daily. Belgian philosopher, Lieven De Cauter, is incensed by this online monopoly as he describes users as unaware of the world outside of their technotopian bubble. We can further understand the idiom, Capsular Civilisation, as a manufactured micro-habitat that intends to nurture life by shutting out harmful external forces. Whilst some life prospers, accordingly, occupants have their outlook narrowed and become exclusive. Problems of marginalisation hence come into existence. So to refer back to the Metaverse, something by definition so narcissistic has no intention to propel society forward. Potentially, it could disenfranchise people further from nature and even enlarge pre-existing social inequalities further.

Consequently, Superspace is a pragmatic counter-offer to the Metaverse for everyone. Humans find comfort in the physical situation of the body in the context of reality. Experiences without situation feel absurd. If we cannot hear, see, smell, taste and feel our experiences concurrently, they will appear artificial. And so, as previously discussed, participants' health will deteriorate with impersonal interactions. Our surroundings shape our spatial experience in synergy with the body; an effect referred to as an embodiment.[39] And so, In Virtual Reality (VR), there is a conflict between the kinesthetic experience of space and the visual experience. The ocular experience does not translate to tactile experiences and will effect our health. For this reason, users of VR technology should not see it as a solution for the everyday. Although, in some closed environments VR is effective, yet, the health issues faced in cyberspace will only

[38] Lieven De Cauter, The Capsular Civilization (Rotterdam: NAi Publishers, 2004)

[39] Isabella Pasqualini, et al, 'The Architectonic Experience of Body and Space in Augmented Interiors', Frontiers in Psychology, (2018) 9.

deepen if the technology is used universally in disregard of context and its user. And so, there is a cause for a haptic revival.

Democratisation: Tech Done Right

It's not all gloomy; many tech corporations have continued the founding utopian principles. Berners-Lee, in particular, advocates for widespread access to knowledge which has a significant impact on collaboration and education. Webpages, such as Wikipedia and Github, provide free encyclopedic facts to their users whereby user-generative information is updated and shared via constant working documents. Although being anthropogenic, facts can easily be altered and faked, even despite the governance of AI robotics. Acknowledging these sites' informative capabilities, with a global audience, falsehoods and vandalism can be given clout. Comically, for example, in 2015, the content of Donald Trump's Wikipedia page was deleted and replaced with a single disparaging sentence. Later vandalized again in 2018, his profile image was swapped for a phallus, causing Apple's Siri to display the image upon users search.[40] Admittingly, As a result, platforms that involve direct participation must importantly require some form of user control.

Biophilic Design Theory

The premise of Biophilic Design aims to increase user connectivity to the natural environment to enhance well-being. Architecturally, this is done by maximising natural light with big windows, using natural materials and colour palettes. Albeit, the concept is focused on our physical environment, however, it should also apply to our virtual spaces. As stated previously, highlighted through Lockdowns, the deprivation of natural stimuli has damaging effects on our well-being.

Technological advancements have produced new ways we can look at the natural world. For example, telescopes let us look out towards outer space, whereas, smart telescopes subsequently name those stars which bear a greater user experience with nature. Consequently, Software Developers aspire to use technology to complement and expose people to nature. The mobile App "Picture this" identifies trees and plants in real-time using Augmented Reality (AR). Through the software (online), users merely aim their hand-held camera to a tree or plant (offline), whereby the organism is instantly identified with a 98% accuracy. Further to this, the application can auto-diagnose plant issues, making anyone a horticultural expert, through the mediation of their phones. Such technology draws Edward Wilson, the founder of the Biophilia concept, to conclude: "the degree that we come to understand other organisms, we will place a greater value on them, and on ourselves"[41] This technology currently supplements the informative function of parks,

[40] Russell Brandom, "Wikipedia's Trump penis vandals have struck again" (2018), The Verge, <https://www.theverge.com/2018/11/24/18110545/wikipedias-trump-penis-vandalism-account-hacking>[accessed 20th October 2021].
[41] *Ibid* Edward Wilson, Biophilia.

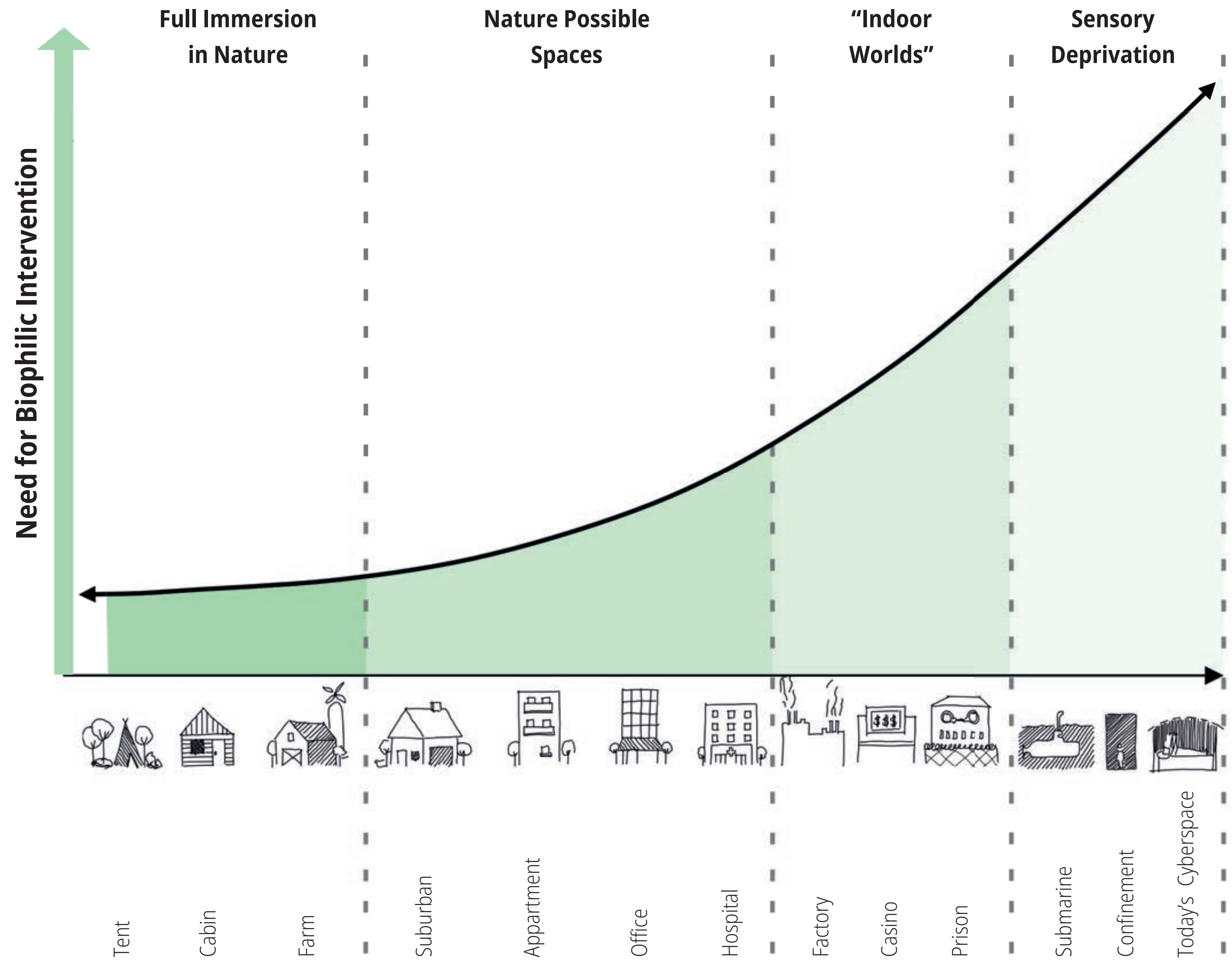


Figure Twelve: The exponential graph above highlights the need for nature across different spatial typologies. The more encapsulated and artificial space is, the more detrimental it is to our health. And so too, in tandem, nature consciously needs to be added or replicated to sensory deprived spaces. And for users, significant time exposed to nature is required to counter the spatial deficiencies.

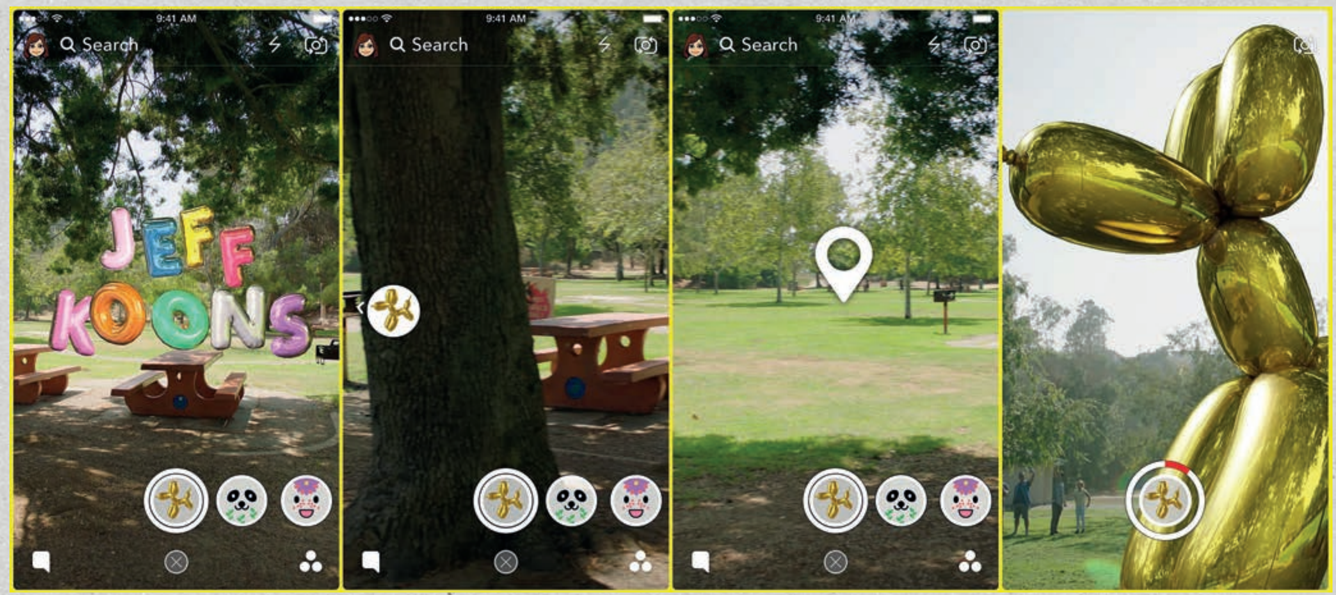


Figure Thirteen: Jeff Koon's balloon dog was Snapchat's first geo-tagged sculpture, in 2016.

whilst enabling users to identify and connect with plants globally. There's no reason why the app can't go further and identify bugs and beetles, for example.

Additionally, Other Superspace technology firms use this organic design principle to promote community and exercise. The mobile application, "Strava", influences its users to get out and exercise. Whether it is for a cycle, run or walk, the app. will notify users of their targets and their friends' activity. It can turn the city streets into racetracks by dividing them up into segments, based on heat maps, whereby users can compete against one another to better their times and successively improve their fitness. The digital realm layers over the physical reality as audio cues, a virtual coach informs you on the distance-time covered during your activity. Its users are members of an online and offline social platform that can plan your route, and in turn, navigate you through the streets in real-time. This being said, the app. could be enhanced further by layering visual elements over the user's experience, using AR.

Alternatively, animated filters and lens layered over the physical realm can enhance recreation and playtime. A notable example is a recent rise in popularity of Snapfilters by the social media platform Snapchat; designers are commissioned to artistically create filters that can animate their user's surroundings. The AR software can meta-morph faces into unicorns through facial recognition, and add animated fairies over green spaces, for example. In 2017, Artist Jeff Koons virtualised his famous Balloon Dog sculpture for the platform, geo-tagging it to major global municipal parks from London's Hyde Park to Sydney's Opera House (See Above). Users through their phones could see the 1:1 scaled super-imposed sculpture amongst these natural settings. And so, the ability to digitally overlay meatspace, without worldly constraints such as size, finance, gravity, tectonics, etcetera, raises the question of authority; Similar to the park's devolution of power from the individual philanthropists to governing bodies, should local administrations have control or influence over what these corporations forge in these public spaces?

I acknowledge that the three examples referenced above are phone applications. Superspace, meanwhile, is limited to existing technological mediums. By using wearable technology, the online and offline worlds will become more streamlined, in turn, making the online ubiquitous. This pervasive virtual world comes with potential risks, therefore, responsible design for these spaces is essential.

Responsible Design: Google's ARCore Principles

The agency of design is to recognise the socio-environmental effects of products. Makers have a "duty to ensure that our inventions are not just clever, but that they are wise; that we don't just create cool things, but that we are in alignment with a sustainable future..."[42]

Before Google's ARCore design guidelines were implemented, software developers had set their design parameters to cater for their intended users. Following this, the ethics and world conditions of these AR platforms were not aligned nor standardized, affecting the user's experience. Positively, the ARCore's codified constitution advocates designers to build applications that focus on kinetics and environmental engagement. It seems it aims to prevent abusive technology. One of the guidelines state to "be mindful of the length of play experiences," and to "Consider when users might need to take a break."[43] - a significantly different approach from Meta. To regulate Google's dogma, the applications are subsequently checked before they are published for public consumption. The regulations insert conscious morality into design thinking. However, the guidelines could go further by emphasising the social effects the virtual interface will have on physical reality. Currently, it merely describes aesthetic malpractices rather than wider socio-political concerns. And so, for a superspace to be a true oasis, industry standards must be installed.

[42] David Berman, "Weapons of Mass Deception: Design & Responsibility" (2009) State of Design Festival <https://davidberman.com/transcript-of-weapons-of-mass-deception-good-design-and-doing-good/> [accessed 2nd November 2021].

[43] Unknown, "Augmented reality design guidelines" (2018), Google <https://developers.google.com/ar/design> [accessed 5th October 2021].

06 Conclusion:

Put simply, the 1990s provided the desktop computer, the 2000s was dominated by the web whilst the 2010s concerned the advancement of the mobile phone. In the 2020s and beyond, advanced computing will present a certain fate that technology will continue to develop our human capabilities. Many tech developers have visions of their inclusive cyber platforms to have their yield of the attention economy. In recent trends, the consumer has become the product; personal data is packaged and traded off to the highest bidder. Consequently, the technology no longer serves the user, nor the progression of society. Cyberspace has become estranged from its pioneers' original intentions. With the global effects of COVID-19, The health implications associated with a civilization essentially operating online rather than in physical reality has brought about chief concerns over the next technological transition. And so, we are at the point of a massive paradigm shift where something has to happen. Technology can be shaped to benefit everyone. Thus, mitigation strategies need to be developed and promoted whilst additional responsibilities need to place on omnipotent tech corporations.

If urbanization by definition is the act of making an area more urban, cyberization is the act of making offline worlds more online. Akin to the rapid urbanization of the Victorian Period, where planners were induced to envision alternate kinds of public space, in our modern period of cyberization we too must envisage new types of public space to combat social issues in search of healthier urban dwellers. The Victorian Urban Park had and continues to have, common benefits for its city dwellers. As stated throughout this paper, the natural realm promotes a better lifestyle. With 68% of the global population living in cities, by 2050, not only does this explicitly mean there will be fewer green spaces due to urbanization, but there will also need to be further protection on areas of nature. Subsequently, our existing parks need to function more efficiently, whilst being universally accessible and their uses promoted. They need to be augmented.

Green spaces are pivotal to societal health for city dwellers. However, momentarily this fact is inadequately funded by UK local authorities; in lockdown, more people frequented these public spaces, whilst funding, in turn, decreased, leaving our parks poorly maintained. The funding for these areas is disproportionate to their use. Henceforth, for parks to continue to be the life of the city, investment needs to be injected into these spaces. And so, the burden of responsibility does not fall solely to innovation but also to park authorities and those higher up the bureaucratic ladder.

Moreover, "reality is the one platform we all share."[44] It transcends social and economical

[44] Adam Greenfield, Augmented Reality, in Radical Technologies (London: Verso, 2017) pp.63-84 (p.83).

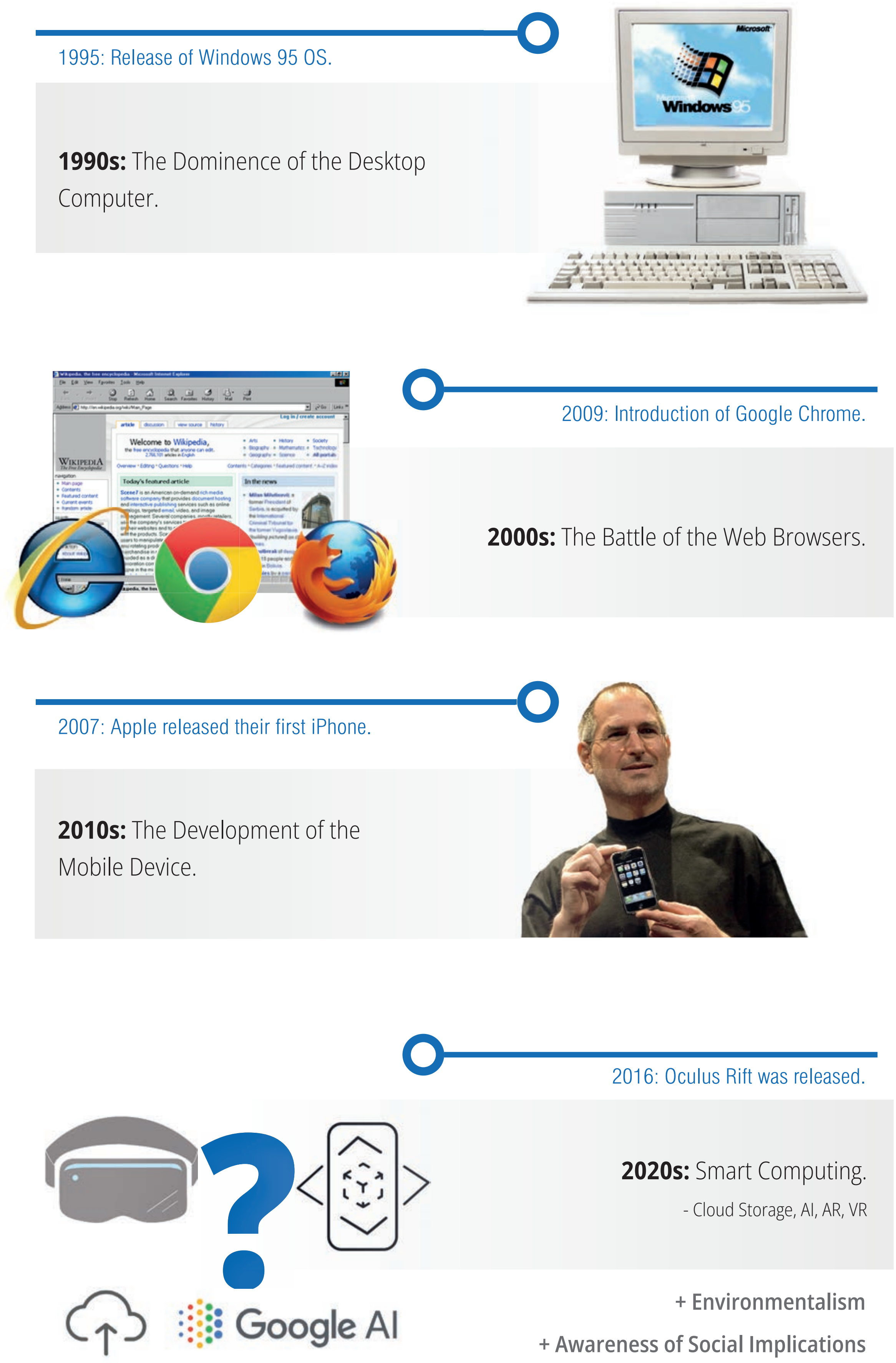


Figure Fourteen: A brief history of the development of modern computational technology.

disparities. Plainly, you do not need the latest high-flying gadget to access it. It does not need to be mediated or filtered – each individual daily experience is unique compared to the next person. Ergo, we should cherish it and its' shared public spaces rather than counterfeit its haptic experiences. "Reality is the only thing that is real."[45] We have learnt through the phenomenal since the start of human civilisation. A city where a physical environment is no longer a reference plane is a worrying dystopian setting; A true democracy cannot prosper if the public sphere is inactive. So accordingly, spaces, whether Offline or Online, must be designed to promote free qualitative iterations of discourse and debate amongst a civic setting.

I don't claim to have a single fix-all solution, although a clear change in attitude is needed throughout the industry for the benefit of users. The formation and the inevitable rise of the Metaverse denote that society shouldn't take a Luddite position in resisting the advancement of cyberspace technology in its entirety, but rather it should look for ways to mould and influence its conception. Tech developers must hold the ultimate responsibility for their designs and look to protect the individual user. Like Google ARCore's codified instructions for its platform's designers, authorities need to intervene and regulate these public spaces, for them to work at their optimum; forcing our tools to serve us and not to be pervasive. The park's implementation derived from a change in political policy that acknowledge a serious concern regarding public health, henceforth, similar action is needed. The afflictions of cyberspace cannot be tackled by a single organisation; It must be addressed as a common design project with shared jurisdiction requiring global political cooperation. Our techno-landscape must be rebalanced. Albeit paradoxical, I conclude, promoted through legislation, that natural experiences should be further enhanced by a technomorphic landscape than they are today; using Biophilic design, parks should be experiential and informative if they are to continue to attract city dwellers. Superspace Oasis could provide a threshold to re-prioritise the offline world – almost a meditative and remedial anti-tech technology. Wherefore, the purpose of this paper is not to impede the evolution of Cyberspace but to provide a lexicon on the complex subject for the reader to learn about its objectives and counterpoints. For this reason, this paper is in agreement with former US Army General, Omar N. Bradley, in his 1948 Armistice Day Address: "If we continue to develop our technology without wisdom or prudence, our servant may become our executioner."[46] Cyberspace will continue to assist and harm humans; we must learn from previous failings. Before the implementation of new tech, the threat of its social implications must be meticulously pre-determined.

Ultimately, unlike the populous in the Victorian era, change is within our individual control. By definition, "the web is anthropogenic. It is difficult enough convincing people that climate change is something caused by humans—the web is definitely caused by humans."[47] What the consumer chooses to buy, and in turn, endorse will affect technological transitions. In encouragement, we should not forget this.

[45] Ernest Cline, Ready Player One (New York: Crown Publishers, 2011).

[46] Omar Bradley, The Collected Writings Of General Omar N. Bradley, Volume 1 (University of Wisconsin: Madison, 1967)

[47] Tim Berners-Lee, interview with Alexandra Ossola (Quartz: London, 2019) <https://qz.com/1618993/tim-berners-lee-thinks-we-can-still-fix-the-internet/> [accessed 10th November 2021].

Glossary

Augmented Reality (AR) – a hybrid dual world whereby virtual elements are overlaid over the physical realm. To access this world, wearable or hand-held technology mediates the users experiences. Pokemon Go is a widely renown example of an augmented reality.

Cyberspace - The hidden interconnected virtual "online" world used to facilitate digital communications and data exchanges. The Buzz-word was first used in William Gibson's 1984 sci-fi novel, Neuromancer. [48]

Green Space – An umbrella term that describes maintained environmental areas

Meatspace – compound noun, derived from sci-fi novels, most notably in William Gibson's "Neuromancer"[49] whereby the physical in-person world was described as comprising of meat and flesh in opposition to Cyberspace. Accordingly, the term has since become a synonym for the natural world or physical world. Physical reality is something which "when you stop believing in it, it doesn't go away."[50]

Metaverse – The term was first conceived by Neal Stevenson in his Sci-Fi novel Snow Crash, 1992. "Meta" meaning beyond, "verse" an abbreviation of universe. It is all-consuming, all-encompassing virtual platform with relationships, work, commerce, and entertainment encompassed under one umbrella term. The term is similar to the internet in it's ambiguous description; often referred to as Internet 3.0 because the technology is a further evolution from the pre-existing internet. Rather than 2D it's 3D, it's immersive. The metaverse has been forecasted to superspeed the mobile device.

Internet 1.0 – (1989–2004) An information space of static webpages whereby users were enabled to search for knowledge and communicate virtually with one another across time zones. Users were considered consumers of content rather than products.

Internet 2.0 – (2005-present) A more interactive development from its predecessor whereby users generated the media via uploading to web pages for a general audience. The advance in hardware such as the mobile camera enabled this advancement. A shift in outlook arose towards consumerism as users information became a sort after product.

Internet 3.0 – Forecasted to evolve, this development is said to provide ubiquitous computing and Machine learning (AI).

Social Engagement – (noun) the process of communicating and engaging in an online community.

[48] William Gibson, Neuromancer (London; Harper Collins, 1993).

[49] *Ibid*. Gibson

[50] Philip K. Dick, "How to Build a Universe That Doesn't Fall Apart Two Days Later," in The Shifting Realities of Philip K. Dick (New York: Vintage, 1996).

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