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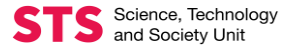
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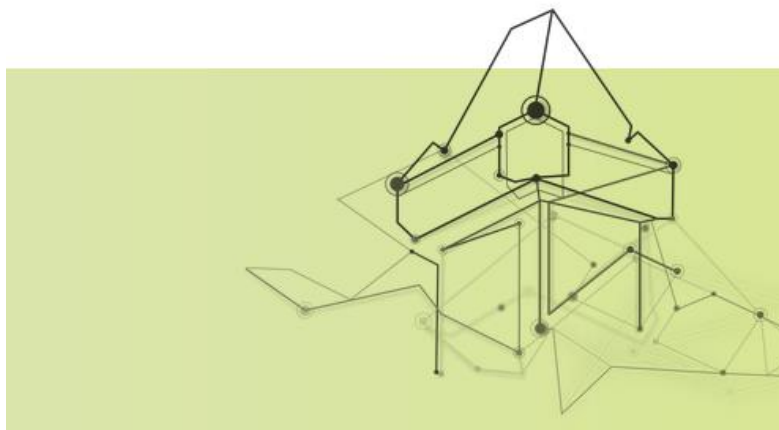


Book of Abstracts

21st STS Conference Graz 2023

Critical Issues in Science, Technology and Society
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Overall, the paper suggests that platform organizations will not thrive equally in all areas of society, nor will they invariably supplant other forms of organization. A field perspective highlights the differential rates and limits of platformization by explaining why some fields are particularly susceptible or resistant to reorganization around platform architectures.

B.4: Understanding the Metaverse: theoretical, empirical and critical challenges for a new(?) internet age

Session Chair: Chris Hesselbein, Politecnico di Milano, Italy

Session Chair: Paolo Bory, Politecnico di Milano, Italy

Critical Questions for the ‘Metaverse’: Provocations for a cultural, technological, and scholarly phenomenon

Chris Hesselbein, Stefano Canali, Paolo Bory

Politecnico di Milano, Italy

According to mainstream narratives, the era of real-time rendered virtual worlds that can be synchronously and persistently accessed by large numbers of people is drawing close. Such ‘metaverses’ are for now still the feverish pipedream of tech companies and venture capitalists, and their exact shape, content, and meaning are therefore still undetermined. Moreover, rather than a clear endpoint, the ‘metaverse’ is a vision or imaginary that is used to mobilize enormous resources towards deepening and extending the current paradigm of digitalization and datafication. It is thus likely that an increasing amount of human activity – both professional as well as leisure-related – will take place in such virtual spaces, and that the paradigm of ‘big data’ is about to be expanded with massive amounts of new and varied data that capture even more (corporeal, sensorial, spatial, and temporal) information produced by and about people as well as their interactions as these unfold in virtual spaces over time.

Much like the rise of ‘big data’, the emergence of the ‘metaverse’ gives rise to important questions, particularly for the social sciences and humanities. First, the significant challenges and benefits of collecting and analysing data on the activities of people in virtual environments as well as of conducting research on the companies, platforms, and infrastructures that enable and control these environments need to be addressed. Second, critical questions need to be asked about how the transition of increasing amounts of human activity to virtual environments may, on the one hand, lead to the creation of better tools, services, or public goods as well as empowered communities and political movements, or on the other hand, exacerbate ongoing harms and inequalities, such as the loss of privacy, state/corporate surveillance, suppression of speech, precariousness of labour, and algorithmic profiling.

As a currently emerging yet uncertain and rapidly developing socio-technical phenomenon, it is of crucial importance to avoid utopian or dystopian rhetoric and to critically interrogate – in advance – the potential challenges, drawbacks, and benefits that might emerge as

metaverses are being developed, who gets access to metaverse data and to what ends this will be put to use, and how these developments might transform or even limit the nature of scholarly research.

From the perspective of media studies, critical data studies, and science and technology studies, this paper discusses first the promises and pitfalls for collecting and analyzing data about and in 'metaverses' as well as the various technologies that are likely to underpin both the development of metaverse environments as well as research on metaverse activities. Second, we discuss how these developments might contribute to the further 'datafication' of human practices and interactions as well as the 'quantification' of research methodologies across the social sciences and humanities. Both these sets of issues are addressed through a series of questions/provocations that each address a distinct tension between metaverse data and the scholarly production of knowledge about 'metaverses' and the assumptions, biases, promises, and consequences that underpin their development and use.

Existing to Exit: The Metaverse as Libertarian Escape Fantasy

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The aim of this paper is to stimulate discussion for how we can develop a critical understanding of the political philosophies, ideologies, and corporate narratives of the Metaverse. This paper will provide one entry point in this important discussion by situating it within theoretical debates that existing network architectures and platforms are not fit for purpose for enacting specific visions of a decentralized internet architecture, particularly one that will be developed through spatial computation and geographically distributed in 'hybrid' space (Saker and Frith, 2019). I contribute to this question by arguing that it is necessary to critically unpack how the Metaverse represents a particular manifestation of 'exit' politics that coalesces around escape fantasies of tech elites, in this case, through decentralized web architectures that ostensibly represent a new kind of territorialization for financial capital (Craib, 2022; Rushkoff, 2022; Simpson and Sheller, 2022; Smith and Burrows, 2021). I examine how right-leaning (neo)reactionary and libertarian ideologies are embedded in Metaverse fantasies of disruption, specifically by manufacturing a new kind of digital enclosure that intensifies user surveillance for commercial exploitation, and surplus extraction through rentiership (Andrejevic, 2022; Sadowski, 2020). The paper will first provide some theoretical ground work concerning the ways that political ideologies of sovereignty are 'baked into' digital infrastructure, often in ways that advocate a 'post-political' philosophy of technocratic computation that align with right-libertarian Silicon Valley culture (Bratton, 2015; Fuller and Goffey, 2012; Golumbia, 2016; Smith and Burrows, 2021). From there, the paper will draw on critical discussions of 'platform realism' and 'Extinction Internet' (Lovink, 2022a, 2022b; Stiegler, 2019) to reflect on how the Metaverse is positioned as an alternative to the platformization of internet infrastructure by and handful of monopoly powers (Helmond, 2015; Helmond et al., 2019). Finally, I argue that Metaverse predictions of centralization and decentralization are contingent on the ways that discourses of 'reclaiming' the internet are situated within specific political and economic contexts. In this case, the Metaverse as

articulated by emerging consortiums of tech and entertainment sectors 'exists to exit' from an internet ecosystem characterized by increasing calls for regulation, a stagnation of user growth, and declines in advertising revenue.

Claiming Sovereignty over the Global Future: Metaverse, Globalization and the Role of the State

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The present study will discuss how different conceptions of the metaverse reflect, and rely on, different ideas concerning the relationship between global markets and state power. Indeed, at present the definition of "metaverse" remains rather blurred, more connected to its mythology rather than to technological advancement. And yet, imagining a digital space able to host human interactions beyond the limits imposed by the political and economic partitioning of our planet is not a neutral endeavor: futures come with their own demands.

The metaverse presents itself as the ultimate convergence, a third space where information, money, data and people seamlessly flow on a global scale. Somehow unsurprisingly, it seems just a cyber-utopic version of neoliberal globalization; a future in which the rules of the free market are the primary, if not the only, regulator of the world. And yet, state power still represents the core engine of the globalization project. Indeed, to create the global market, to profit from planetary asymmetries and increase wealth concentration, states had to embrace a new role: to ensure that the law, in terms of property rights and contract regulations, is enforced everywhere in the same way (Pistor, 2019). In other words, and with some meaningful exceptions, states today use their democratic legitimacy to maintain the global market out of the reach of democratic control; to prevent, at the expenses of citizens, a fragmentation of the global level playing field (Slobodian, 2018). The creation of a metaverse relies on a similar principle.

Starting from these premises, the present contribution investigates which kinds of global futures are envisioned in relation to the development of different metaverses and which role states are expected to play in it. In other words, rather than questioning the potential impact of the metaverse on the global society, the present study reverses the question, and asks: which political and economic conditions are perceived as necessary to make a specific version of the metaverse possible? And which visions of the future are mobilized to legitimize the pursuit of such conditions? To answer these questions, the study will review and compare the visions of the future proposed by the main actors currently discussing the development of the metaverse (i.e.: Meta Platform Inc., European Commission and China). By comparing the ways different futures are employed to legitimize the creation of a metaverse, this analysis will shed light on the increasingly strained relation between state sovereignty and digital spaces in a context of accelerating globalization.

The Metaverse vs. Hannah Arendt: A critical reminder of our embodiment.

John Magnus Dahl

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You don't need to look long on the internet to find characteristics of the metaverse as something that "could fundamentally change how humans live", that the metaverse will be "like real life, only bigger and better", and that "the metaverse will arrive". According to a recent Pew Research poll, 54 % of "624 technology innovators, developers, business and policy leaders" believe that the metaverse by 2040 will be "truly fully-immersive" (Pew Research Centre, 2022). Although the percentage indicates a clear divide in the industry, it is safe to say that a central element in widespread imaginaries on the metaverse concentrate on how it will revolutionize not only internet, but people's daily life, and that this is connected to how the metaverse will be fully-immersive.

But can a virtual world ever be fully-immersive? In this paper, I use Hannah Arendt's distinction between the three fundamental kinds of human activity – labor, work, and action – to critically dissect the imaginary of the metaverse, concentrating on the question of embodiment.

Arendt uses the opening lines of *The Human Condition* to reflect on how modern science, in its manifestations as space engineering and the life sciences, builds on an imaginary where mankind can exchange "...human existence as it has been given [...] for something he has made himself" (Arendt, 1958, 2-3). Writing these lines in 1957, spaceships and artificial life bore much more alluring promises than computers. Today, it is a safe bet that Arendt would have seen AI, AR, VR and the Metaverse as clearer examples of how science is imagined as promising us a world where we can "escape the human condition" (Arendt, 1958, 2).

At the same time, Arendt's division of three distinct spheres of life proves useful in criticizing the promises of this imaginary, most visible in popular discourse around the metaverse, through reminding us of our embodiment. Starting with the sphere of labor, I discuss how the metaverse cannot be fully immersive because human beings can never be born, die, or feed in the metaverse. Furthermore, using the categories of work and action, I argue that the allure and attraction of a virtual world – be it the metaverse or contemporary use of all kinds of social media – lies in how it allows us to be *disconnected* from our bodies. We can (in principle) always turn off the computer. Virtual worlds should thus be seen as a parallel (but not less real) world where we can engage with others not through one unique, constant avatar, but through the opportunities to enact many different identities, offered by disembodiment. The metaverse might thus be 'overrated' both regarding its attractiveness and its radicalness.

The paper is mainly based on a theoretical discussion of the relevance of Arendt's thinking when dissecting imaginaries of the metaverse, but the idea stems from empirical, ethnographic research on teenager's social use of smartphones and computers, which will be used to illustrate and illuminate the points of discussion.

A Metaverse of Fluidity, Inclusivity + Plurality

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The term “metaverse” is abuzz as tech companies scramble to claim the emergence, design, and ownership of Web3, but its definition proves broad. A quick online search of the metaverse yields dozens of news reports, essays, and scholarly critiques and analyses about it: reporting, warning, speculating, questioning, and occasionally endorsing the internet’s next big step. However, talking about the metaverse is a tricky task as it invokes an unclear vision for what comes next and leans heavily on advances made by tech companies like Meta and Microsoft. For many artists and small groups who are creating projects in the nascent and evolving “proto” metaverse, it’s already here, and it’s more diverse, user-friendly, flexible, and therefore more desirable than what large tech companies have in mind.

This paper argues that metaverse projects led by individual artists and small groups are modest in scope but powerful as alternatives to mainstream efforts as they promote the idea of the metaverse as a pluriverse, a multiplicity of worlds and possibilities that co-exist. In doing so, they offer virtual worlds and experiences that allow for purposeful interaction, are accessible and inclusive sites for sharing ideas, and function as alternative ways of knowing and being, all of which can be translated by participants into meaningful understandings of and connections to the real world.

Using content analysis and drawing on visual studies and digital culture theory, I critically examine three metaverse projects to explore how creative technologies are used to interrogate the logics of storytelling, identity, and forms of cultural knowledge, and are shaped into the making of a metaverse that engages with multiple realities and experiences towards a digital pluriverse.

American transmedia artist Carla Gannis’s *wwwunderkammer* (2020-present) is a social VR-based reimagining of the archive modeled on the 16th century cabinets of curiosity of western Europe. Set in the open-source platform Mozilla Hubs, the project collectively draws on and rethinks the library, history museum, and art gallery to house a collection of image-objects and recorded interviews inside specially designed chambers that represent and offer commentary on 21st century politics, technologies, and ecological crises.

Chinese-born U.S.-based new media artist Snow Yunxue Fu’s *VR WSPark Metaverse Project* (2021-present) is a virtual site and exhibition space modeled on and visually resembling Washington Square Park in New York City. Initially conceived as a space to exhibit student work (Fu is an Assistant Arts Professor in the Department of Photography and Imaging at New York University’s Tisch School of the Arts), the social VR Sansar-based metaverse space is also a cultural hub for artist lectures, performances, and site-specific events, welcoming participants and audiences from all over the world.

Lastly, AbTeC Island (2016-present), located in the massively multiplayer online 3D virtual world Second Life, was created by the North American-based project and research group Aboriginal Territories in Cyberspace (AbTeC). Co-founded by technologists and artists Jason

Edward Lewis and Skawennati, AbTec Island serves as a virtual headquarters and creative studio for teaching, learning, creating, and offering a safe space for Indigenous communities.

Empowerment, Business and Metaverse

Heidrun Maria Allert

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This work presents findings of an empirical study which took place May 2021 till June 2022. The study analysed articulations on social media accounts which promote the Metaverse and investments in NFT-based assets (such as virtual land in Decentraland). The accounts analysed are held by families, i.e. parents and single parents, which describe themselves as solopreneurs. Thus, the study looks at the Metaverse and its imaginaries not from the perspective of big tech companies and large (platform) corporations, but from solopreneurs and families. As such, the Metaverse is not understood as a technology and a platform allowing for an alternative life and new experiences, but as emerging social practices, processes of subjectification and political agendas. These are not primarily driven by visions of the future and a "new internet era" but are rooted in historical processes of work, economy, and the self, as well as respective ontological underpinnings.

The findings show, that the Metaverse is conceptualised as a business empowering citizens to emancipate themselves from societies. This form of emancipation is rooted in a long tradition. The findings are discussed based on Philip Agre's work. He describes the emergence of a business discourse of liberation as the rise of empowerment (Agre, 1995). The study shows that forms of work organisation and learning arising in 1990th as well as the human potential movement are taken up by individuals which are eager to govern themselves. In these processes, individuals for example engage themselves in displacing public law by contract law. The study takes up a socio-material perspective and also takes into account infrastructural aspects of blockchains and smart contracts.

Agre, P.E. From high tech to human tech: Empowerment, measurement, and social studies of computing. *Comput Supported Coop Work* 3, 167–195 (1994).
<https://doi.org/10.1007/BF00773446>.

Metaverse. Old and new urban issues in virtual cities

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Recent years have seen the emergence of some early attempts to construct virtual cities, affective utopias or dystopias in an embodied internet, which in some respects loom as the ultimate expression of the neoliberal model applied to the urban (albeit virtual). Although there is an extensive disciplinary literature on the relationship between planning and virtual reality related to the gaming industry, it often avoids questions of values. The observation of some of these early experiences – Liberland Metaverse, Decentraland, Seoul Metaverse, SuperWorld, to name a few – raises important questions and issues that are gradually

becoming inescapable for architects, and urban planners, and allows us to make some partial considerations on the risks and potentialities of these early virtual cities.

The first reflection revolves around the private character of these new cities. To whom do virtual cities belong? Unlike the World Wide Web, financed by public bodies, the first experiments in virtual cities are in the hands of Big Tech. The private character of these initiatives challenges norms, rights and values rooted in the physical city, which come into crisis in virtual cities, which struggle between the desire for freedom and the need for regulation. The second issue has to do with the project and its imaginaries, which, on the one hand, re-proposes entrenched and hyper-traditional images – despite the potentially high degree of creative freedom – and on the other, while exasperating the rhetoric of the bottom-up project, is generally configured as an absolutely top-down project, planned down to the last detail by professional experts. A third issue has to do with the accessibility and consequent inequality of these virtual cities. Although during the Covid-19 pandemic initiatives such as Seoul Metaverse have exaggerated its potential as a device for accessibility to welfare services and tourist attractions even in situations of physical distance, these initiatives nevertheless avoid addressing issues related to the digital divide, which poses serious problems of socio-economic and generational inequality.

Moreover, in these first experiments of virtual cities paradoxically seem to re-propose urban problems consolidated in physical cities: from spatial and socio-economic inequalities, to touristification, to the total privatisation of space, to land speculation as demonstrated, for example, by the disproportionate real estate market performance of Decentraland. A final question alludes to the unsustainability – understood in ecological terms – of this model, which re-proposes an advanced, polluting and unequal techno-capitalist vision, without asking the main question that the current state of crisis poses to us: that of a radical project for the care of the world.

Dystopia or contemporary utopia, what are these new virtual cities? The construction of a better city and a better world has obsessed architects and urban planners since always. Virtual reality gives us this possibility but it would seem to re-propose well-rooted imaginaries and problems of the contemporary neoliberal-model city. And it opens up a serious reflection on the need for new imaginaries, a radical “politics of the imagination” (Didi-Hubermann, 2010), for virtual territories.

Imaginations from the Other Side. Fashion at the crossroads of a new (internet) age

Michele Varini

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New paradigms of consumption and production made possible by digital technologies have been affecting the fashion industry for several years, accelerating further as a result of, and in response to, the pandemic situation. Within this complex current, one phenomenon has recently begun to manifest itself and grow: various fashion brands have experimented with forays into the world of gaming, a subculture peculiar for its imagery, rules, languages. An interesting case in point is Animal Crossing, a gaming platform developed by Nintendo for Switch, a "hybrid" console. The game is a life simulator (in some respects similar to “Second

Life”) where users act in a media context with personalized avatars. A relevant phenomenon, given the ability to customize avatars, is the production by users of customized "outfits," many of which are inspired by iconic collections of major designers. There are profiles where these digital garments are re-shared, re-mediated, processed, giving rise to dedicated profiles, especially on Instagram. Another sign of cross-fertilization between fashion and digital can be traced in the fashion shows hosted in the medial environment: Animal Crossing hosted fashion shows of various maisons, which created, ad hoc, digital clothes and accessories, usable and purchasable directly in the platform, designed to be worn by avatars in the media context of reference.

To address a field such as this, which moves between on and offline making even these distinctions obsolete and hermeneutically insignificant, methodologically a netnographic type of investigation was chosen. A first phase of the research involves an exploratory observation of social networks to identify Instagram profiles dedicated to re-sharing content related to Animal Crossing. The analysis will be developed in the form of visual ethnography, both to obtain information inherent to stylistic and aesthetic choices and to find recurrences/dissonances with respect to mainstream fashion imagery. The approach is mixed methods, with the intention of being as faithful as possible to the peculiarities of the field of study.

The paradigms of consumption, production and the creativity itself behind fashion objects seem to be moving out of the traditionally followed trajectories. One of the objectives of the present study is to explore this new reality: what are the drivers to fashion consumption in this new context? Are the traditional answers provided by the sociology of fashion valid tools for reading the phenomenon? How are products perceived, their artistic value? What role do skills and creativity play in the reproduction/creation of fashion objects with these digital tools? What are the innovations and threats to the creative and production chain?

The interest of the study is focused on both the role of pro-sumers and the role of producers. The fashion supply chain is engaged in a strong change; the possibilities are many (sustainability, customization, etc.), and many are the threats (artistic value of the product, professionalization of creativities, etc.). The present work could have a dual function: to reconstruct a visual imagery of this fashion co-production and consumption in a media context, a hypothetical "metaverse", laying the foundations for new methodological ideas.

B.5: Studying paratexts in practice – How to research algorithms in datafied societies

Session Chair: Roger von Laufenberg, Vienna Centre for Societal Security | VICESSE, Austria

Session Chair: Vera Gallistl, Karl Landsteiner Privatuniversität für Gesundheitswissenschaften, Austria