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Superhighway to serfdom: The political economy of the metaverse

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Abstract: We provide a political economy perspective on the metaverse and the governance challenges it poses, taking seriously the insight that “the effective governance of this universe requires an understanding of the nature of the power-relationships among [the actors involved]” (special issue call for papers). We start from Ball’s (2022) definition of the metaverse and focus in particular on the implications of interoperability for (in)equality. Our core argument is that the metaverse stimulates a shift away from the current order of “digital capitalism” and its proprietary markets (Staab, 2020) towards an order of technofeudalism (e.g., Varoufakis, 2023), in which interoperability allows leading corporations to turn proprietary markets into immersive proprietary lifeworlds. Linking a historiographical account of feudalism with our analysis of the intended functioning of the metaverse, we diagnose the emerging technofeudal order as fragmenting state sovereignty, increasing inequality based on the algorithmic exploitation of a cybertariat and “producers” (Bruns, 2007) by a micro-elite, and combining an increase of freedom of movement of people, information and capital within the semi-virtual space of the metaverse with threats to the freedom of physical movement in the real world. We go on to show that this shift is deeply problematic from a liberal perspective by summarizing its implications for freedom in consumption, in employment and in investment (Irving, 2020) as well as for the second-order freedom of choice of participation in the metaverse itself. In sum, we are able to show how interoperability in the metaverse alongside its domain scope and level of intrusiveness threaten liberal strategies of competition and regulation, such as those of the European Commission. This suggests that our governance models might have to be more fundamentally re-thought in order to protect citizens’ fundamental rights alongside state regulatory capacity.

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Introduction

How might the metaverse¹ impact our political-economic order, and what could this mean for freedom? The apparent simplicity of this question dissolves once we recognize that the metaverse may never really come to be, at least not in the form envisioned by its early developers.² The initial hype around it has cooled at the time of writing (Mann, 2025; Ye, 2023). Still, analysing the implications of plans for the metaverse at this speculative stage remains both legitimate and urgent (see also Smith, 2025), lest appropriate regulation be further outpaced by socio-technical change.

Our approach is twofold. First, we examine in section one how leading developers – particularly within Meta – imagine the metaverse. We treat these visions not as forecasts but as ideological blueprints that expose underlying logics, aspirations, and socio-economic principles that may shape future digital environments regardless of who builds them. Second, we see that technological systems are rarely neutral; once implemented, they are difficult to constrain, especially when driven by powerful commercial interests. The metaverse therefore deserves scrutiny before it becomes a material fact. If, as Matthew Ball (2022) claims, the metaverse will “revolutionize everything”, then social scientists must interrogate its foundations and potential effects now, while its contours remain fluid and contested. After all, our diagnosis of emerging technofeudalism raises an important, broader governance problem: if sovereignty is displaced into code, what institutional forms – if any – can preserve rights and freedoms? While we do not develop policy prescriptions, our analysis serves to clarify the challenges that governance in this area will need to confront.

To this end, we propose an analytical framework drawing on two complementary traditions. First, from the historiography of feudalism, we derive a conceptual apparatus to explore the techno-feudal tendencies³ of platform environments. Sec-

1. We will explain how we conceptualize the metaverse in section 1.

2. A 2022 Pew survey found experts split on whether the metaverse will exist within two decades (54% vs. 46%), while recent studies suggest its high costs make its future even less certain (Anderson & Rainie, 2022; Ye, 2023; Mann, 2025).

ond, based on a critical reading of Friedrich Hayek's theory of freedom, we examine how the metaverse may erode liberal notions of autonomy and choice. Our goal is not exhaustive coverage of these literatures but rather a working model for assessing possible political-economic futures entailed in the metaverse. Our argument rests on the assumption that the metaverse, if and when it fully emerges, will be built around proprietary platforms and enclosed markets. As such, it poses challenges not only to market regulation and digital sovereignty, but to the governance of the public sphere itself. Should open-protocol alternatives prevail instead, the dynamics we describe under the rubric of technofeudalism would be substantially mitigated.

The article proceeds as follows: Section 1 outlines the conceptual and ideological foundations of the metaverse as envisioned by its current architects. Section 2 engages with the shift from digital capitalism (Staab, 2020) to a potential technofeudal order. Section 3 considers how this transformation could reshape fundamental freedoms in ways that challenge liberal ideals and governance.

Section 1: What is the Metaverse?

Although the metaverse does not yet exist in a fully realised form, it has become a central topic for investors, technologists, futurists, and academics. Originating in speculative fiction – Neal Stephenson's *Snow Crash* described it as an “imaginary place” (1992, p. 31) – it has shifted into what proponents present as an imminent technological reality. Significant capital is flowing into its development, driven by hopes of first-mover advantages (Kim & Kim, 2022; Kshetri, 2022). What is envisioned is a semi-virtual world accessed through avatars, gradually replacing the internet and reshaping how we work, socialise and play.

Matthew Ball (2022, p. 29), one of its most prominent theorists, defines the metaverse as a:

massively scaled and interoperable network of real-time rendered 3D virtual worlds that can be experienced synchronously and persistently by an effectively unlimited number of users with an individual sense of presence, and with continuity of data, such as identity, history, entitlements, objects, communications, and payments.

3. For an overview of the debate, see Durand (2022). The texts we make explicit reference to in this paper are Mazzucato (2019), Kuttner & Stone (2020), Dean (2020), Varoufakis (2023) and Morozov (2022).

For Ball, interoperability is crucial: assets and avatars should move seamlessly across platforms, legal systems and applications – “systems of systems” and “frameworks of frameworks” (2022, pp. 39, 125). As Zuckerberg put it, “teleporting around the metaverse will be like clicking a link” (2021). Structurally, however, the metaverse will be a network of “islands”. Jumping between them could mean crossing invisible borders – between terms of service, corporate rules, or national laws – without warning. This raises two issues: users may not realise they are subject to new norms (Dwivedi et al., 2022), and states may struggle to enforce authority, as frictionless, opaque mobility enables regulatory arbitrage (Alam, 2024, p. 43).⁴

There is a tension between the quest for increasing interoperability and the proprietary market logic of digital capitalism. We see three possible outcomes: First, high interoperability could undermine proprietary income models. Second, proprietary structures could prevail, blocking interoperability and maintaining a form of digital capitalism. Third, corporations could consolidate into monopolies, preserving both proprietary control and some level of interoperability, concentrating immense power in a handful of firms, potentially rendering them too big to regulate (Sadowski, 2020, p. 569). The last possibility should worry us most, which is why we will pay it most attention.

The political economy of digital capitalism is already embedded in a dense policy field: from competition law battles over app store fees to EU initiatives such as the Digital Markets Act (Vezzoso, 2024, p. 336). These interventions illustrate that the metaverse will not emerge in a vacuum, but within contested arenas where regulators, firms, and civil society actors struggle to shape the infrastructural rules. In this context, conflicts between public law and private platform rules are not new – GDPR already asserts extraterritorial rights, and terms of service operate as de facto statutes. However, fully immersive VR environments introduce a qualitative shift: In the metaverse, the entire workspace and marketplace are instantiated in code, meaning platform norms can silently pre-empt or override public law in real time. The line between *using a service* and *living inside it* collapses: Assets can be seized without property rights, and taxes evaded by moving across jurisdictional “islands”. Here, law does not just compete with code; it risks being displaced by it.

These developments are visible first in the domain of leisure. Zuckerberg imagines concerts and parties attended virtually with friends worldwide (2021). Fortnite al-

4. Mouzon suggests that the metaverse should be seen as an intentional attempt by Big Tech to create spaces for themselves fully outside regulation of any kind (2022, p. 6).

ready offers such proto-metaverse events, like the Travis Scott concert with 28 million users (Ball, 2022, p. 12). Yet these rely on preloaded data and restricted interactions. A “true” metaverse would require real-time interactivity for millions – an enormous technical challenge still unresolved (Ball, 2022, pp. 54, 77).

Public acceptance seems high in entertainment (Bayram, 2022, p. 3), but less so in relation to work. While proponents claim immersive offices will improve collaboration, it is unclear whether 3D avatars outperform video calls (Zuckerberg, 2021).⁵ More critically, virtualisation intensifies the *datafication* of labour, increasing surveillance by employers, platforms, and states (Egliston & Carter, 2021). Workplaces, long “gold standards of habituation contexts” (Zuboff, 2019, pp. 156ff), may serve as testbeds for intrusive technologies. As Bérastégui (2023, p. 6) warns, the metaverse risks reinforcing managerial control while raising concerns about mental health, work-life balance and isolation.

The so-called *digital divide* – between jobs that can be performed remotely and those that cannot – already reflects and reinforces socio-economic disparities (Chakravorti, 2021).⁶ The expansion from leisure to work will likely deepen these divides. Meta promises “hundreds of thousands of jobs” (Zuckerberg, 2021), but digital economy trends suggest otherwise. Platform labour is polarised between a well-paid coding elite and a precarious “cybertariat”, often located in the Global South (Burrell & Fourcade, 2021). At the same time, much value is produced by unpaid “producers” (Casilli, 2021). If Big Tech becomes the infrastructural backbone of global labour markets, its extractive logic will only deepen, further entrenching inequality and asymmetry.

Section 2: Digital capitalism and the threat of technofeudalism

Irrespective of its eventual form, if the metaverse emerges, it will do so within what Philipp Staab calls *digital capitalism* – an order shaped by Big Tech (2020, p. 21). Central to this system is the proprietary market: whereas traditional firms operate within markets, leading digital companies are markets themselves, within which others buy and sell (Staab, 2020, p. 32). Their logic is less Marx’s M–C–M’ cycle of productive profit (1990, p. 251) and more a rentier strategy of extracting

5. The current diffusion of AI agents seems to be overcoming some of those earlier quality limitations to virtual work. It also serves to illustrate how workers voluntarily adopt technologies despite their displacement risks.
6. There is no agreement in the literature on who will win and lose, and how, from increasing remote work. For an interesting alternative view see Baldwin (2019).

value from transactions. Apple and Google, for instance, take a 30% cut from every app transaction, leaving producers and consumers with few alternatives (Nicas, 2020).

These ecosystems are designed to be closed to competitors while providing users with integrated services that become habitual “social spaces” (Dolata, 2015, p. 511). The more seamless the integration, the higher the social, technical, and economic costs of switching platforms. Proprietary markets also allow owners to control information, prices, access and performance (Staab, 2020, pp. 177–9). Data collection enables predictive pricing; access can be denied to sellers or buyers; and transactions are constantly monitored, allowing owners to police performance. Such mechanisms amount to what Muldoon and Raekstad term algorithmic domination: impersonal automated systems that govern access, pricing, and enforcement (2022, pp. 2, 8). Here, algorithms – not human discretion – decide who is included, sanctioned or advantaged, producing regimes where all interactions are datafied and monetised (Rossiter & Zehle, 2022, p. 37).

This diverges sharply from the liberal market model, as articulated by, i.a., Friedrich Hayek. For Hayek, competition and price discovery allow markets to coordinate dispersed knowledge and safeguard freedom (2001, pp. 13, 38, 51). Proprietary markets, by contrast, repress competition and undermine price signals. While the broader economy is not yet wholly subsumed by digital capitalism, the rise of the metaverse could mark a decisive turn, consolidating platform dominance to the point of unavoidability.

Some commentators argue that this signals capitalism’s transformation into a new system, labelled “neo-feudalism”, “digital feudalism”, or “technofeudalism” (Mazzucato, 2019; Kuttner & Stone, 2020; Varoufakis, 2023).⁷ Such terms are often used rhetorically; as Morozov notes, invocations of feudalism can simply repackage familiar critiques (2022, p. 92). Yet this criticism underplays how platforms alter the structure of accumulation itself. Capitalism, in Marx’s classic M–C–M’ cycle, hinges on the production of commodities for exchange within markets. Technofeudal accumulation, by contrast, rests on firms constructing and governing the markets themselves. Code not only mediates but constitutes these markets, turning firms into gatekeepers of enclosed digital fiefs. This reliance on algorithmically enforced rentiership signals more than an intensification of rentier capitalism: it marks a distinct mode of domination, one where economic power is derived from govern-

7. Cf. Habermas (1991, pp. 195, 200) and Wallerstein (1996, p. 162) for older analyses of new feudalisms.

ing markets rather than from outperforming competitors within them. That warrants a new term. Thus, we contend that the label “technofeudalism” has genuine analytical value – if grounded in serious engagement with the historiography of feudalism rather than merely used as a metaphor for corporate overreach.⁸

What is feudalism?

To ground our understanding historically, we draw on Marc Bloch’s foundational work *Feudal Society*. He defines Western European feudalism⁹ not as rigid hierarchy but as profound inequality – a society of lords (or “chiefs”) and serfs rather than nobles and slaves (Bloch, 2014, p. 465). Feudal bonds arose where kinship bonds weakened. The feudal relationship was practical, not familial: lords provided nominal protection, serfs supplied labour and military service.

Feudalism emerged from the violent fragmentation of earlier systems, especially the collapse of Roman statehood and Germanic kinship structures. Society became isolated, with weak monetary circulation and a focus on the local (Bloch, 2014, p. 465). While this represented regression from Roman administration, it also moved beyond slavery and inherited nobility. In an age of disorder and short institutional memory, rigid castes were unsustainable (Bloch, 2014, p. 465). Yet inequality persisted in new forms.

Power was tied directly to landownership. Lords, often professional warriors, secured territories and their inhabitants, fusing economic and political authority. Serfs were *adscripti glebae* – bound to the land rather than employed through wage labour. Unlike capitalism, no market mediated between labour and production: land and labour were directly linked, and neither was commodified (Anderson, 1974, p. 147).

Feudal manors were small, reflecting limited administrative capacity. Social bonds were local: subordinates were tied to nearby lords who had to live in close proximity to rule (Bloch, 2014, p. 466). Feudalism was uneven and partial: “feudal Europe was not all feudalized in the same degree [...] and it was nowhere feudalized completely” (2014, p. 467). State structures survived in places, while in others larger polities asserted control. In Normandy, even egalitarian communes of “peasant warriors” developed independently (Bloch, 2014, pp. 466–467). Feudalism, then,

8. Morozov even suggests they refer to feudalism because it offers a “media-friendly” way to restate unoriginal arguments (2022, p. 92).

9. Bloch’s account of feudal society extends “roughly from the middle of the ninth century to the first decades of the thirteenth” and is “restricted to western and central Europe” (2014, p. xiv).

was never total, coexisting with alternative formations.

This complexity matters for contemporary uses of “feudalism”. Just as historical feudalism did not fully displace state or kinship, technofeudalism should not be expected to become the only global formation. Still, the term provides a useful lens if clearly defined. On Bloch’s account, feudalism can be described as (1) an oligarchic system with fragmented and localised sovereignties, characterised (2) by inequality without rigid castes, in which (3) economic extraction was tied to landownership and its revenues. (4) Movement of people and money was restricted and local, (5) power was exercised directly by lords over dependent populations, and (6) it always coexisted with other political formations, especially remnants of the state. Taken together, these features give us a precise framework for assessing whether “technofeudalism” is an appropriate analytical tool for understanding the transformations the metaverse may bring.

What is technofeudalism?

We choose the prefix “techno” for two reasons. First, it is more common in the literature than “digital” and avoids the vagueness of “neo”. Second, it highlights both the defining characteristic of the system – technology – and its main agents: Big Tech. Thus, “technofeudalism” best captures our argument.

To examine the relationship between historical feudalism and contemporary digital capitalism, we return to the themes outlined in our definition of feudalism: *sovereignty* (1); *inequality* (2) and *exploitation* (3); the *movement of people, information, and capital*; (4) and the *modalities of power* (5). We conclude by considering how “total” technofeudalism may become compared with medieval feudalism (6).

Regarding *sovereignty*, the metaverse is not governed by a unified authority or defined by territorial boundaries, yet this does not imply an absence of power. A small number of dominant corporations exert near-absolute control over their platforms, with influence that frequently overlaps competitors and subordinates other firms. They operate proprietary markets that grant them power well beyond their immediate domain, often rendering other companies into *de facto* subsidiaries.¹⁰ As interoperability increases, and while it has not yet undermined proprietary control, these corporations will play an even greater role in defining the rules, norms, and standards not only for themselves but also for the broader

10. Meta and Alphabet have multi-class share structures that keep control with their founders. While some shares are tradeable, others – held mainly by the founders – carry majority voting rights. Alphabet, for example, issues A, B, and C shares: only A and B carry votes, with Page and Brin holding 85.9% of class B, giving them 51.4% of total voting power (Alphabet, 2022).

ecosystem, transforming proprietary markets into immersive, privatised lifeworlds.

This shift occurs in a semi-virtual space where the state is no longer the central authority. Lobbying matters (Rogers et al., 2025), but the more fundamental tension lies between territorially bound states and the transterritorial character of the metaverse. The physical infrastructure – cables, antennas, routers, and data centres – is only one aspect. More important is the global, decentralised, immaterial distribution of information, which makes state regulation easy to circumvent (Klos, 2021, p. 110). What is true for the internet is even more pronounced in the metaverse, where the breadth and integration of technological ecosystems amplify evasion.

Our argument aligns with the “neo-medievalism” perspective (Costa Lopez, 2021, p. 409; Bull, 2002, p. 246), which suggests that globalisation drives states to outsource authority upward to transnational bodies and private actors, and downward to local authorities and private actors. In this reading, the corporations behind the metaverse constitute a class of actors assuming powers once held by states. The more expansive the metaverse becomes, the greater the scope of these non-sovereign forms of power, raising the question of whether public actors will retain meaningful capacity to counterbalance them. This erosion of state authority also transforms the terrain on which public discourse and collective will-formation occur. As platform ecosystems take over functions once guaranteed by public institutions – communication, coordination, even civic deliberation – the governance of the public sphere itself becomes increasingly dependent on private infrastructures. What once relied on law, transparency, and shared communicative space is now mediated by code and commercial terms of service.

As Wallerstein noted, the decline of sovereignty is a “primary sign of the acute crisis of capitalism as a historical system” (1999, p. 33). At the turn of the millennium, capitalists faced a choice between reinforcing state legitimacy or exploiting its decline to build alternatives (1999, p. 33). Big Tech has clearly chosen the latter, thriving on and deepening the erosion of state structures.¹¹ Yet just as feudal lords provided only limited services – mainly protection – these corporations are unlikely to act where doing so does not align with profit motives.

On the matter of *inequality* and *exploitation*, fundamental inequality lay at the

11. These firms have long depended on government funding, especially from the US military (Mazzucato, 2013). More recently, some Big Tech leaders call for renewed state partnerships, e.g. Palantir co-founder Alexander Karp’s *Technological Republic* (2025) urging closer Pentagon collaboration over consumer products.

heart of feudalism (Dean, 2020, p. 4), and the same is true – on a greater scale – in technofeudalism. This is visible in corporate governance (Brou et al., 2021, p. 623), in surveillance asymmetries privileging owners over users (Gurov, 2022, p. 21), in the concentration of cryptocurrencies (Makarov & Shoar, 2021, p. 30), and in unequal access to technologies and algorithmic decision-making (Chochan, 2022, p. 2; Egliston & Carter, 2021, pp. 13–14). This empowers a “micro-elite of platform billionaires” (Dean, 2020, p. 2) to set the terms of participation in the metaverse.

Labour organisation becomes ever more difficult in such a context. Workers are physically isolated, operating in virtual workplaces subject to continuous surveillance by employers, platform owners, and third parties. Such conditions make collective action increasingly difficult, if not impossible.¹² Historically, feudal-like conditions resurfaced whenever labour was weakest (Bridges, 1958, p. 2); the metaverse, through its very design, anticipates and pre-empts labour organising.

Feudalism was marked by restricted *movement of people, goods, and capital*, especially when contrasted with the Roman Empire. Rome’s single government, unified administration, common language for official purposes and standardised currency had enabled mobility across its vast territory. With the empire’s collapse, these features disintegrated, fragmenting society into smaller estates with limited circulation of people and money.

By contrast, the metaverse appears to extend freedom of movement, transcending physical borders and continuing trends already established by globalisation. Yet this openness is paradoxical: proprietary platforms structure access, and more aspects of life – work, consumption, leisure – are absorbed into enclosed ecosystems, leaving fewer external checks on corporate influence. This creates a semi-virtual openness difficult to reconcile with the proprietary logic of Big Tech.

Even if virtual interoperability expands, it may well coincide with greater physical immobility. Employers may not need workers onsite, while governments may use this logic to justify stricter border regimes, citing environmental sustainability or national security. In a warming world and given a global rightward turn, physical immobility may be enforced by what Besteman (2019, p. 26) calls a “global apartheid apparatus”, with militarised borders and restricted migration (Kalir, 2019, pp. 25–26) alongside increased virtual mobility.

12. Trade unions are only beginning to respond to the gig economy, ride-hailing, and telework, and still focus mainly on workers who can be mobilised offline, such as food delivery riders (IndustriALL, 2021; UniGlobal, 2024).

Bringing these threads together, we define technofeudalism in the metaverse as a political-economic system that arises from digital capitalism, fragments state sovereignty, institutionalises sharp inequality through algorithmic exploitation of a cybertariat and producers by a micro-elite, and expands virtual mobility while creating conditions for constraining physical mobility.

Regarding the *modalities of power* the metaverse brings about, we see the rise of a ruling class capable of deploying both economic and extra-economic coercion. Where feudal lords extracted labour under threat of violence, technofeudal firms extract value through algorithmic governance. As Varoufakis puts it, the historic disruption is “to automate capital’s power to command people outside the factory, the shop or the office” (2023, p. 90). Here, coercion manifests not as physical punishment but as deprivation of livelihood – an equally devastating form of domination.

Total technofeudalism, marked by hyperexploitation, can arise only after digital capitalism’s counterbalances – state, labour, and markets – collapse. With these gone, asymmetry prevails, leaving most people without the means of production or the means to change their condition. This brings us back to Jacques Ellul’s idea that technological specialisation produces totalisation: fragmented innovations concatenate into an “all-inclusive ensemble” (1980, p. 199). In the metaverse, such totalisation first operates through integration and seduction rather than repression. Yet once the system is complete, coercion is no longer off the table: technological ubiquity may lay the groundwork for political authoritarianism.

If technofeudalism rests on proprietary enclosures, governance becomes central to its trajectory. Medieval Europe knew counterweights to lordly power – charters, guilds, canon law as well as occasional outbursts of popular violence – that tempered feudal domination without abolishing it. Today’s equivalents might include interoperability mandates, algorithmic transparency rules, or the extension of collective bargaining rights into virtual workplaces. The question, however, is whether such measures can be effective once code itself constitutes the marketplace. Unlike medieval serfs, who could still gather to resist, opposition to a distributed, disembodied corporate elite becomes far more difficult. Technofeudalism thus entrenches inequality. Here, governance dilemmas can be phrased as forks in the road: Will regulators succeed in enforcing open standards, or will platforms consolidate into monopolistic fiefs? Will digital labour rights adapt to immersive environments, or will the cybertariat remain beyond the reach of collective bargaining? The extent to which these questions are answered in favour of public institutions will determine whether technofeudalism becomes entrenched or whether counter-

weights emerge to prevent this outcome.

No historical system has ever been fully total. Medieval feudalism never encompassed all of Europe, and technofeudalism will likewise coexist with alternative formations. Nonetheless, the metaverse provides tools for a historically unprecedented degree of control that transcends national boundaries. By integrating work, consumption, leisure, and communication into enclosed proprietary ecosystems, Big Tech corporations achieve a reach medieval lords could never imagine. The deeper the metaverse embeds itself into everyday life, the more extensive and resilient technofeudal rule becomes.

Section 3: Challenge to Freedom

Working with Hayek's conceptualisation of freedom offers two advantages. First, it can defensibly be read in the republican liberty tradition, providing a strong foundation for analysing freedom in the metaverse (Irving, 2020, p. 558). Second, Hayek wrote extensively on how society should be organised to guarantee individual freedom, concluding that capitalism – particularly through competitive markets – best protects it. Since we argue that the metaverse marks a departure from capitalism toward technofeudalism, Hayek helps us assess when and why a capitalist economy that once enabled liberty ceases to do so.

Hayek focuses on first-order choices: options to choose within a given system (Cammack, 2005, pp. 4, 6, 12, 19–20). To critique the metaverse, we extend this to include a second-order freedom: the capacity to accept or refuse the system itself. This radicalises rather than contradicts Hayek's view. In *The Constitution of Liberty*, he defines freedom as the ability to act according to one's own plans rather than under another's arbitrary will (2011, p. 59). Taken seriously, this implies not only freedom to choose but also freedom to decline participation. This extension allows us to critique the metaverse in four domains: consumption, employment, investment, and second-order choice.

The metaverse centralises activities – shopping, gaming, sports, music, art – on proprietary platforms. While abundance of goods might suggest freedom in consumption, these “cloud fiefs” (Varoufakis, 2023, p. 88) allow owners to shape user behaviour through control of information, access, prices, and performance (Staab, 2020, pp. 177–8). Under such conditions, Hayek's competitive price system collapses: prices lose their information function, and consumers denied service cannot simply turn to another provider. Current duopolies like Apple and Google already illustrate this dynamic. In the metaverse, dependence on a few dominant platforms

will leave consumers subject to their arbitrary rules, in fact substantially undermining freedom of choice.

Freedom in employment is likewise constrained. We distinguish three types: offline work; hybrid work involving metaverse tools; and fully metaverse-based work. The first two remain partly governed by existing labour markets and legislation, though even here algorithmic monitoring grows as meetings and offices move online. In the metaverse, surveillance can become total: all labour is quantified and monitored, magnifying managerial control. For fully metaverse-native work, options shrink further. Infrastructure will likely be owned by a few companies, giving workers little alternative. The emerging “cybertariat” (Burrell & Fourcade, 2021, p. 215), or Varoufakis’s “cloud proles” (2023, p. 84), face poor conditions, low pay and minimal protections, often outside existing jurisdictions. They depend on a “micro-elite of platform billionaires” (Dean, 2020, p. 2) and lack means of collective organisation. While labour markets have always been asymmetric, platform monopolies intensify this imbalance: Workers are not just subject to employers, but to the very owners of the economic space.

Investment was valued by Hayek as a way for individuals to deploy capital productively rather than relying solely on labour (2001, pp. 235–6). The metaverse appears to offer abundant investment – from NFTs to virtual land grabs (Tidy, 2022) – but these differ fundamentally from Hayek’s ideal. Such assets are immaterial, markets are volatile (Dwivedi et al., 2022, p. 9), and value is speculative rather than productive. Buying tokens or virtual land rarely channels resources into real production; it is closer to Veblen’s “conspicuous consumption” (2007, p. 53) than to genuine investment. These markets invite manipulation, bubbles and fraud (Ponciano, 2022). Formally, the freedom to invest exists, but substantively it is hollow.

Lastly, the most fundamental question is whether individuals can choose not to engage with the metaverse at all. At first glance, participation seems voluntary: users can log off, just as they can avoid social media today. Yet monopoly control alters the equation. In labour, refusal may mean unemployment – an existential cost. Hayek warned that when a monopolist can refuse to “satisfy our wishes” and no alternative exists, freedom disappears (2001, p. 96). Opting out of the internet is already difficult where access to economic, political, and social life depends on connectivity. The same trajectory can be expected for the metaverse. As it becomes embedded in work, education, and public discourse, non-participation will become prohibitively costly. For those whose livelihoods depend on visibility – artists, journalists, academics, politicians – dependence deepens while autonomy narrows. As its structure becomes more enclosed and its reach more total, freedom of

exit becomes illusory. When the cost of non-participation becomes unbearable, second-order freedom – the freedom to choose the system – is lost. Without it, Hayek's liberal definition of freedom no longer applies, even in its own terms. The metaverse thus represents not a continuation of liberal capitalism, but a post-capitalist enclosure: a system where consumers, workers, and citizens alike are no longer sufficiently free to meet as market users or act according to their own decisions and plans.

Conclusion

We have summarised the foundational vision of the metaverse and shown how it undermines the political-economic order from which it arises. Drawing on Staab (2020), we identified this order as digital capitalism and showed how the metaverse embodies a technofeudalist logic that intensifies key dynamics eroding the functioning of capitalist markets. We examined the consequences of this transformation for our freedom, understood as both freedom of choice in the domains of consumption, employment and investment, and freedom to choose the system itself – based in an expanded reading of Hayekian liberalism.

We found that owning the marketplace in the way envisioned by the metaverse contradicts even Hayek's relatively limited conception of freedom. For a time, it seemed that freedom in the digital age could be protected through competition and regulation. But corporate strategies and the centripetal force of network dynamics (Werbach, 2009) have led to excessive market concentration. This concentration does not only constrain markets; it reshapes the communicative infrastructure on which the liberal public sphere depends. When deliberation, association, and visibility migrate into privately governed immersive environments, the problem ceases to be merely economic. It becomes a question of how the public sphere itself can be governed under conditions where the very media of communication are proprietary.

The metaverse – due to its need for interoperability, its expansive domain, and its invasive capacities – fundamentally challenges competition-based regulation. Liberal regulatory strategies, such as those pursued by the European Union in the Digital Markets Act, Digital Services Act, and AI Act, are built around interoperability mandates and gatekeeper rules. But they will prove insufficient against the emergence of immersive proprietary life-worlds. Given the threat of emergent technofeudalism, governance models should be more fundamentally re-thought to protect citizen's fundamental rights alongside state regulatory capacity.

The metaverse presents a profound technofeudal challenge to capitalism – and to the conception of freedom on which capitalism historically rests. This should concern anyone committed either to preserving the existing political-economic order or to defending freedom, even in its most minimal form. Technofeudalism is not the only possible future. Medieval Europe also produced chartered towns that secured freedoms from feudal lords, and an open-protocol, interoperable metaverse could serve a similar function today. If properly enforced, interoperability could temper enclosure, embedding rights within shared infrastructures rather than proprietary fiefs.

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