

Capital is Dead. Long Live Capital! A Political Marxist Analysis of Digital Capitalism and Infrastructure

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Abstract: There is a growing literature suggesting that the digital economy is taking us out of capitalism. While this manifests most notably as a diagnosis of ‘digital feudalism’ or ‘techno-feudalism’, a differing voice is McKenzie Wark, who suggests we have entered an entirely new mode of production altogether: “vectoralism”. This paper historicises and theorises our current conjuncture in relation to the potential multiplicity of modes of production, and the materiality and imperialism of telecommunication infrastructures. We approve of Wark’s development of new concepts, rather than turning to ahistorical regurgitations like “neo-feudalism”. However, we argue that the mode of production lens is not adequate to trace what we consider as more granular changes and that it risks packaging old wine in new bottles. For example, Wark’s vectoral claims remain grounded in infrastructures such as undersea cables that are used by corporations and states as strategies of legal and economic imperialism reminiscent of the 19th-century world order. Instead of examining this topic through a mode of production lens, we contend that these phenomena are better traced through a processual (rather than functional) and socially determined (rather than economically determined) method of historical materialism. In this regard, we adopt an approach closer to that of Thompson and Political Marxists, such as Brenner and Wood. To support our argument, we turn to wider Marxist theory on the mode of production, which we then anchor in empirical works from contemporary critical infrastructure and communication studies.

Keywords: digital capitalism, infrastructure, mode of production, vectoralism, McKenzie Wark, imperialism, political Marxism

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In *Capital is Dead: Is this Something Worse?* McKenzie Wark (2019) argues that we are no longer in capitalism. Instead, the ascent of the digital is held to have enabled the birth of a new mode of production entirely: vectoralism. While capitalism remains, it is being outpaced by this emergent configuration, with its faster, more intensive modes of extraction. In place of conflict between capitalist and worker, Wark argues that the world is increasingly divided between a class of “vectoralists”, those who control information and the infrastructure through which it flows, and those who produce information, a class of “hackers”.

We applaud Wark for returning to the fundamentals of political economy and for seeking to refine our conceptual vocabularies. It is undeniable that ‘digital capitalism’

has brought forth fundamental changes to the global political economy which necessitates innovative scholarly inquiry (Schiller 1999; Durand 2020). The challenge of theorising an emergent alternative mode of production has recently been raised by both the political left and right (Zuboff 2019; Kotkin 2020). We thus consider it imperative for the left to engage seriously with such provocations and not to surrender the debate to the political agendas of reactionary authors (see Smith and Burrows 2021; Morozov 2022, 89-90). Amongst the various proposals of such a new mode of production, we find Wark's submission uniquely stimulating in that it is based on the development of a new conceptual register, rather than retreating to ahistorical regurgitations such as "neo-feudalism" (Mazzucato 2021; Varoufakis 2021).

Yet, despite being stirred by Wark's polemic, in this paper, we identify limitations in her argument. We show that using the method of a mode of production framework defeats the purpose of assessing granular social change, Wark's apparent aim. This is partly because the mode of production concept is better suited for examining large-scale changes (Haldon 2015) and has historically been developed to facilitate an *a posteriori* reading of periodical change (Banaji 2010). Having explored the methodological limitations of Wark's reliance on 'mode of production', we then turn our analysis to the 'new' geopolitical infrastructures upon which Wark's substantive claim is based. We argue that the 'new' class antagonism, which Wark purports, between "vectoralist" and "hacker" (2019, 13), is insufficiently diagnosed especially in terms of the horizontal relations between the ruling class, i.e., states and Big Tech. We, therefore, argue it is premature to suggest that recent socio-technical developments have reshaped the forces of production and the dominant class struggle driving the mode of production. In short, we contend we are still in capitalism, albeit one inflected with digital currents.

While disagreeing with Wark's substantive claims, we remain enamoured with her focus and imagination. Our claim is not that we should ignore her provocation or the topic on which she focuses upon how the ascent of the digital has fundamentally transformed the global political economy. However, instead of examining this through a mode of production lens, we contend that such changes are better traced through a processual (rather than functional) and socially determined (rather than economically determined) method of historical materialism. In this regard, we adopt an approach closer to that of E. P. Thompson (1995) and Political Marxism (Brenner 1977; Wood 1995).

In particular, we argue that Wark's use of *modes* of production in the plural as co-existing and overlapping is misplaced. Instead, in keeping with Fraser and Jaeggi (2018) we suggest that the changes in forces of production that Wark is referring to are instead better understood as more granular changes and 'back stories' of capitalism (e.g., rent extraction, imperialist rivalries), i.e., non-capitalist elements structurally integrated into capitalism. In effect, where Wark sees new vectors, we see old strategies of legal imperialism and geopolitical accumulation. To evidence this point in the context of digital capitalism we draw on Political Marxism (Brenner 1977; Moreno Zaca-rés, forthcoming), Critical Communication (Aouragh et al. 2020) and Infrastructure Studies (Easterling 2016), underscoring the continued importance of invisible and indirect infrastructures as part of global capital accumulation.

Our paper is structured in three parts. We start by sympathetically introducing Wark's argument (I). Next, we problematise Wark's use of the concept of mode of production as a method (II). Finally, we provide an empirically rooted rejection of Wark's arguments by assessing developments in the materiality of logistics and infrastructures (e.g., undersea cables), upon which the purported vectoralist class depend (III).

1. Examining the ‘New’ Forces of Production

For Wark, “[m]odes of production are multiple and overlapping” (2019, 14). Her central submission is that a new mode of production, vectoralism, is emerging and is rapidly becoming dominant. For now, the urgent task is to make sense of vectoralism’s co-existence with capitalism and to accept that we live in a transitional phase where we should no longer understand capitalism as a totalising mode of exploitation.

Wark’s argument is also about method. Since we are now in a new system dominated by the Vector, we also need a new vocabulary, a new vulgar and rude theory to make sense of this new mode of production (52). In other words, the social theories at our disposal that emerged out of the critique of capitalism are *dépassé*. Our conceptual register is outmoded, we have “got stuck trying to explain all emerging phenomena as if they were always expressions of the same eternal essence of Capital” (12).

In Marxist theory, a mode of production is constituted of *forces* and *relations* of production. For Haldon, forces refer to “the means of production and the technical levels or methods of production (including the labour process)” whereas “relations of production refers to how the means of production (land, tools, livestock, etc.) are effectively controlled, and by whom; and how the direct producers are associated with those means of production and with their own labour power” (2015, 209). Wark reproduces Marx’s 1859 *Preface to a Contribution to the Critique of Political Economy* by adapting it slightly to integrate the shift to vectoralism (2019, 36-37). For example, instead of “epochs marking progress in the economic development of society” (Marx 1859), Wark defines successive modes of production as “epochs marking the extension of the exploitation of nature by social-technical forms of increasing abstraction” (2019, 37). *Capital is Dead* is therefore an appeal for a better consideration of *forces* of production in Marxist literature (53). The text from Marx upon which this analysis is based is famous, but it has also been abandoned by many Marxists, as the relation it sets between base and superstructure is considered arbitrary and limiting (Wood 2002a; Brenner in Brenner and Harman 2006; Banaji 2010). Wark’s rephrasing of this text is an appeal to embrace this so-called vulgarity and return to what she sees as the core of Marx’s originality, i.e., Marx’s ability to understand his age as a new epoch of history.

The key throughout *Capital is Dead* is information, which accordingly is a force of production that behaves differently from the commodity form (42). It is not scarce, it takes on the appearance of being free, it is cheap to store and transmit, and it requires “transnational legal enforcement” through intellectual property law (42). The latter “becomes a new kind of relation of production, more abstract than its predecessors, and one that makes no land or physical plant, but rather information itself, a form of private property” (42). This produces, as the thought experiment goes, a new class relation, the “hacker” vs the “vectoralist”, in which the hacker makes new information (43), and the vectoralist owns and controls the vector, “the infrastructure on which information is routed” (45).

So, according to Wark, information is the new force of production and a key source of revenue. Information is transferred through infrastructure, which is owned and controlled by vectoralists, who are framed and supported by an intellectual property regime (superstructure) that allies them to the state (superstructure) and produces a new relation of production. This in turn generates a new form of private property and legal form owned by individuals, especially hackers, whose labour has become the production, or reproduction, of information. This is the basis of the surplus wealth extracted by vectoralists.

Due to a political economy based on the “excess of information” (5), the new vectoralist-hacker class struggle is bifurcating from the capitalist-worker class struggle “out

of the development of the forces of production, which generated an extensive and intensive rationalization – or better yet, *abstraction* – of the production of information” (88). Finding ways of further abstracting the production of information through the controlling, owning, and extracting of information is the vectoralist class’s objective. Discussing technological changes in terms of forces of production allows Wark to integrate them into a class analysis without falling into a crude technological determinism. Class analysis helps to enable the argument that there is a new form of exploitation here, and thus competing forms of exploitation at play, as capitalists continue to operate alongside vectoralists (although how exactly remains unclear in the text, as we discuss below). In any case, both are fetters on the forces of production.

This begs the question: how is information today different to any other commodity under capitalism? Aside from its innovative specificities and the fact that it is not constrained by scarcity, the qualitative difference is difficult to grasp (Fuchs 2013; Rigi 2014; Dantas 2017; Fuchs 2017). In a capitalist mode of production, the forces and relations of production operate according to a systematic and conflictual relation set in place between a capitalist class that owns the means of production and a working class that can sell its labour power (Brenner 1977). Wark may argue that the vectoralists do not own the means of production anymore, because those means, or forces, have changed and have become information itself, but they own the infrastructure that it requires, so how important is that degree of separation of ownership? Wark’s response is:

The vectoral infrastructure throws all of the world into the engine of commodification, meanwhile modifying the commodity form itself. There is nothing that can’t be tagged and captured through information about it and considered a variable in the simulations that drive resource extraction and processing (2019, 48).

Since we have “run out of world to commodify”, “commodification can only cannibalize its own means of existence” (48). The Vector eats our brain, whereas Capital eats our body (59). But for Fraser (2022), for example, this cannibalism in itself is a specific feature of capitalism today, and it does not matter what capitalism eats. The qualitative difference for Wark seems to be that vectoral infrastructure enables more “extensive” and “intensive” abstraction of any social process, as it pushes the boundaries of commodification into a limitless field of extraction.

The vectoralist class exploits the asymmetry of information, i.e., “the asymmetry between the little you know and the aggregate it knows – an aggregate it collects based on the information you were obliged to ‘volunteer’” (55). What exactly the hacker class does, for Wark, is not labour as we know it, “as it’s not the same thing every day” (51). There are several ways in which information is a so-called new and qualitatively different force of production, whose extraction requires a new property relation: how the information is processed through vectors, the main task it requires i.e. creation, how it affects our brains more than our bodies, and how it relates to the broader aggregate of forces. The vectoralists own “the *extensive* vectors of communication”, the “*intensive* vectors of computation”, the “copyrights”, “patents”, “trademarks”, “logistic systems”, “financial instruments” and “algorithms” (55), all more ‘abstract, flexible, adaptive’ (56).

A key question emerges as to whether these relations of production equate to a process of rent extraction (Moreno Zacarés 2021, 61-62). Wark acknowledges in one passage the closer link between landlords and vectoralists, as they “may benefit from the rise of the vector in ways Capital does not”; “landlords (often with global property

portfolios) increase their rents by extracting the information value that the presence of the hacker class produces” (2019, 92). This would seem to imply that Wark would refrain from qualifying all vectoralist/hacker relations as equivalent to rent extraction. However, today’s economy is characterised by stagnation, which is emboldening rentierism through the dominance of intellectual monopolies, shifting the economy into relying on new forms of growth (Durand 2022; Rikap 2023), new means of securing growth (Christophers 2020; Benanav 2020), and new alliances with state actors (Brenner and Riley 2023). According to these analyses, and Wark, we are seeing a (re)turn towards extra-economic forms of exploitation.

2. The Mode of Production Debate and the Problem of Multiplicity

The Marxist emphasis on mode of production emerges from Marx’s more mature and unfinished works: *Capital Volume One* (1990), the *Grundrisse* (1973), and *Volumes Two and Three of Capital* (1978; 1981). The mode of production refers to capitalism’s *laws of motion*, i.e., how wage labour and capital come together systematically in a way that makes them imperative for social reproduction to occur. Althusser and Balibar (2009) have provided key formulations of the concept and its importance for historical materialism. However, their more structuralist position is also disputed, most famously by Thompson (1995). Debates around its use and definition have shaped Marxist theory (Banaji 2010; Campling 2013). Althusser (2009) emphasised the distinction between forces and relations of production in terms of their economic contradictions, whereas Thompson (1963), Banaji (2010) and Political Marxists (Wood 2002a) tend to focus more on historicising those concepts and defining capitalism as a *social ensemble of relations of production*. Political Marxists will even go as far as abandoning the forces and relations distinction and starting instead from the concept of social-property relations (Brenner 1977).

The mode of production debate can also be translated as a problem of “levels of analysis” (Bernstein 2013, 327). We suggest here that Wark’s provocation is to think of the mode of production in terms of co-existence and multiplicity. As noted above, what the forces of production today reveal, for Wark, is a multiplicity of forms and classes of exploitation.

Using a mode of production framework as a thought experiment to capture ongoing change, i.e. as a potentiality, will seem surprising to those who reject the concept of the mode of production (Knafo and Teschke 2020). In effect, “getting stuck” is exactly what they think the mode of production does, i.e., the abstraction serves to reify a functionalist framework for understanding capitalism (Post 2013; Gerstenberger 2021). Either Wark is developing an approach to the mode of production which does away with the charge of functional derivation, by arguing that through a lens of multiplicity, one can avoid being functionally derived from a single chain of causality; or she is misguided as to how the concept of mode of production operates, thus weakening her argument for multiplicity. By her own admission, she suggests that “it is as hard to describe transitions between modes of production as it is to describe changes in mood” (22). Indeed, if the mode of production is compared to one’s affective disposition, without the Spinozist framework from which it could potentially gain (Lordon 2014), we suggest it is doing more harm than good to Wark’s enquiry.

We agree with Wark that new social relations require new methods, that Marxist concepts are not transhistorical blueprints, and that significant changes are happening to the global political economy justifying debates about large-scale transition (Fuchs 2013). However, adopting the concept of mode of production is not an innocent choice in method (Fuchs 2019). In fact, choosing to frame a new poetry and matrix of class

relations according to the multiplicity of modes of production has significant disadvantages for understanding transition. We argue that it ignores the methodological specificity of the concept in describing a unique phenomenon, and thus stifles analysis of change by falsely reproducing the role of certain processes. In the next section, we substantiate this claim through a historical analysis of the geopolitics of empire and extraterritoriality for understanding infrastructures.

Regarding the specificity, exclusivity, and singularity of the capitalist mode of production, the nature of capitalist laws of motion – or rules for reproduction (Brenner 1986) – is precisely to expand and reproduce themselves *ad infinitum*, because of the logic of accumulation and competition (Marx 1990). The capitalist mode of production, which has allowed us to think of such a concept, is unique for the specific reason that it is a *totalising system* that requires systematic and imperative conditions for productivity through the extraction of relative surplus value out of the real subsumption of the labour process (Brenner 1977). However, the controversy is inevitable, as the concept of mode of production is undoubtedly underdeveloped by Marx, and was subject to decades of positivist materialist interpretations during the Stalinist years, at variance with Marx's method of historical enquiry (Banaji 2010, 46-47). However, it seems incoherent, if one adopts an orthodox conception of the mode of production, based on capitalism as a *totalising* force as set out by Marx, to assume different modes co-exist (Banaji 2010, 52-66). As such, if there is co-existence, then we are not in a capitalist mode of production. Banaji distinguishes between two definitions of the mode of production in Marx, one at a simple or low level of abstraction, based on the labour process; and the other at a higher level of abstraction and referring to an "epoch of production" (2010, 50). Moreover, wage labour can be used as a simple category and used across different modes of production, or it can be used as a concrete category at a deeper level of abstraction and is only in this instance capital-creating or capital-positing and thus value-producing (Banaji 2010, 54). These categories are often confused in the literature, he argues, which amalgamates relations of production and modes of production, or relations of production and forms of exploitation. In other words, discussions that misuse the notion of mode of production tend to mistake the *quantitative* growth of the category of labour and its correlative forms of exploitation for *qualitative* growth, implying a shift in "epoch". Because it is a higher level of abstraction, the mode of production as an epoch, as qualitative change, is "impossible to determine until these laws of motion are themselves determined" (60); until after it has happened. In other words, to describe an ongoing change of epoch, that change needs to be complete, and not overlapping. The owl of Minerva only flies at dusk for the Marxist analysing the mode of production.

The mode of production is also just a clunky concept. It is limited and limiting by its nature; it fixes an epoch and a set of forces and relations of production in space and time (Haldon 2015, 207-211). It is a heuristic device, which enables subsequent slicing of social formations, and the possibility of deeper immanent analysis by synchronically stopping the movement and potentiality of history. In some ways, it is the antithesis of change and historical materialism in that it fixes a continuity outside its actual development, abstracted out of its laws of motion. Instead, ruptures and breakthroughs, which occur through class struggle, are not just a challenge to the mode of production, but proof that it is merely an abstraction that compromises the actual movement of history. Even for Haldon, a prominent user of the concept, mode of production "has a value only at a relatively high degree of abstraction, functioning as a means of differentiating at the level of political economy some very basic differences in how surplus wealth is generated and appropriated. Trying to formulate laws of motion beyond this level" or

“in respect of organisational capacities and arrangements” is “misleading” (Haldon 2015, 207-208; see Bernstein 2013, 327).

In terms of how Wark applies the concept, she may indeed be focusing on how surplus wealth is generated and appropriated, but to evidence that claim, she relies more on changes in labour and exploitation as simple categories and as organisational capacities and arrangements. She seems to adopt the view, described by Haldon (2015, 213), that a mode of production can be superseded by a quantitative growth of the forces of production (i.e., the excess of information), which eventually leads to a qualitative shift; that commodification now means “the appearance of a world of information *about* things” (Wark 2019, 15) and to a conflict with previous relations of production. Yet, surplus wealth remains generated and appropriated through control over the labour process, however much its daily routine has shifted – the fact that this exploitation of labour is shaped by information as the new El Dorado can merely be seen as a question of organisational capacity and arrangement.

Considering Haldon’s cautionary remarks about the limits of the concept and its use as a historical method, the mode of production may not be at all useful as a heuristic device to understand what is coming *next*, or to contemplate whether we are no longer in capitalism. Wark would possibly answer that she is not a historian in the sense of working from the past towards the present and instead stresses that she wants to do things “the other way around”, to “first describe the present, then secondarily figure out where it came from” (35). Since the mode of production is a concept that was elaborated only at the end of a long process of analysis of the present (i.e., by the mature Marx) and to roughly differentiate societies in the past from what was happening in the 19th century, this seems like quite a contortion. Also, it does reveal a rather teleological and categorically limited notion of historical method – any historian, Marxist or not, would probably agree to be working from the present one way or another (Hill 1972, 15).

Using the concept of mode of production for ancient, feudal, or other past societies, is controversial (da Graca and Zingarelli 2015), and arguably some of Marx’s weakest work is on the differences he sketches between ancient, tribal, and feudal modes of production, and other categories he and Engels later dropped (see Marx 1859). As Banaji has argued we risk, with the mode of production concept, ‘reading history backwards’ and turning it into propaganda (2011, 65-66). Yet, reading history from present to past is exactly what Wark wants to do, and thus it is difficult to take her work as anything other than a propagandist-poetic provocation.

A similar critique could be made regarding recent “techno-feudal” arguments (Durrant 2022; Rikap 2023; Ström 2022), which are consistent with Wark’s analysis in terms of substantive changes to surplus wealth extraction. Despite the reality of what they identify (the dominance of intellectual monopolies and the role of technology in securing and expanding new forms of extraction based on rent), the leap that these are “feudal” remains mostly propagandist. Intellectual monopolies are said to dominate today’s information age through technology-driven competition as a response to general industrial stagnation (Brenner 2002). They show that we are in a rentierist data-driven economy that echoes how we have described aspects of feudalism, where the tech giants, controlling intellectual property, patents, knowledge-driven technologies, branding, data mining, etc. are compared to feudal lords collecting dues and taxes through personal bondage and control of territory (see Brenner 1976). According to this logic, one could link the vector to the feudal manor. Interestingly, the tech giants are also often compared to early modern joint-stock companies (Wark 2019: 42), while

retaining the so-called “feudal” mode of production framing, even though these companies did not operate in a feudal but mercantilist system. Thus, without being able to dig too deep here, it is fair to suggest that this literature makes largely rhetorical, if not propagandist, use of historical comparisons, and abuses the concept of mode of production.

The more radical historicists of the Political Marxists, refuse to adopt the vocabulary of a mode of production precisely to be able to map better the potentiality for, and granularity of, social change. Generally, Political Marxism emerged as a critique of Althusserian Marxism that posited a more economic and structural approach to the mode of production, less sensitive to historical specificity (Brenner 1977). More recently, some Political Marxists argue that even Brenner’s concept of rules for reproduction (1986), as an alternative to the concept of mode of production, over-emphasises production and pushes forward a functionalist and derivative approach to social change and to the logic of capital that tends to reify any potential transformations as necessarily capitalist and thus obscure and disable a more historicist approach to agency (Knafo and Teschke 2020, 24).

For Knafo and Teschke, using the mode of production or similar concepts such as “rules for reproduction” or “laws of motion” equates to “[a]bstracting out a small set of rules that derive from under-defined sets of property relations, elevating these syncretistically to epoch-defining concepts – ideal-types – that are meant to capture general patterns over centuries, and vaguely subsuming spatio-temporal specificities under their encompassing explanatory pretences” (2021, 252). In other words, if one is trying to trace significant, but potentially still latent and evolving changes to the fundamental forces and relations of production, such as Wark is, it might be more judicious to frame the analysis more openly through a methodology that does not presuppose a major ideal-type pattern of those relations and forces, but instead focuses on the specific practices that constitute significant changes in overall patterns and continuities.

For Fuchs (2019, 10-11), Althusserians are indeed guilty of collapsing mode of production with social formation. Fuchs (2019, 9) argues that the Althusserian conception of the mode of production overemphasises the economic dimension of production and “does not give attention to how structures need to be produced and constantly reproduced through human practices”, such as communication. Fuchs argues for a more social Thompsonite approach to base a critical theory of communication, as communication “is the everyday process that establishes and maintains social relations” and is in form and content a “material practice” (Fuchs 2019, 16). This implies again a tension, if not a methodological contradiction, between identifying new communication practices by “hackers” and “vectoralists” as defining of a new mode of production.

It is perfectly possible to have a conversation about systemic changes to surplus wealth and property relations without using the mode of production. Although Wark is far less guilty of problematic feudal comparisons, she remains tied to a periodised approach to historical materialism, which provides a framework from which certain potential changes are subsumed and derived, before fully examining the different impacts and manifestations of those practices. Wark’s bravado style of “let’s make up our own Marxist analysis!”, in the sense of using old Marxist concepts but in a new way for our new sets of problems, is alluring and coherent with her definition of Marxism as subjecting “the language of the times to its own critical pressure” (2019, 81). But it remains hollow and rushed if it does not methodologically go through the range of more invisible, or mute, compulsions of capital, which we discuss next.

3. Infrastructures and Geopolitical Imperial Rivalries: Old Wine in New Bottles

To go beyond the methodological argument, we discuss below practices associated with contemporary logistics and infrastructure and their lineages to 19th-century extraterritoriality as an indirect colonial strategy for the capitalist management of territory. We argue that the ownership of infrastructures as a means of production is shaped by geopolitical and legal forms and contested by imperialist rivalries. Despite technical innovations and contingent variations, we contend fundamental similarities exist between the current conjuncture and the inter-capitalist imperial conflicts of centuries past. This challenges Wark's argument that the new infrastructures of the digital world, the Vector, serve as evidence constituting a new dominant mode of production. Rather, our analysis serves to highlight continuity, through links to their historical lineages and anchor in past practices of the ordering of the international capitalist system. To do so, we prefer abandoning the concept of mode of production when evaluating social change that is more granular, immanent, and thus at a lower level of abstraction. Instead, we use simple categories as a starting point and work our way towards elevating the analysis to a higher level of abstraction if the evidence is sufficient and if this contributes to the broader advantages of periodisation. We do not want to presume and be constrained by categories that may or may not be valid as explanatory tools, but instead reshape those broader categories according to empirical arguments.

For Wark, a key factor justifying the shift away from the capitalist/worker form of surplus extraction is the fact that vectoralists have abandoned owning the means of production, and instead own the vector, which allows the appropriation and routing of information (2019, 13). Information is the new commodity, and it forces us to behave differently than how we behave in a capitalist, commodity-driven economy. Because information is abundant, the goal is to harness it legally and infrastructurally, rather than produce it from scratch thanks to the exploitation of workers' labour (13). Thus, owning the legal and material infrastructures – the vector – through which information is controlled is the key process that establishes the ruling class of this so-called new mode of production. Thus, the difference with capitalists is that once they own the means of production, they still must extract surplus wealth from the labour of workers and exploit that labour. Vectoralists, instead, employ hackers to find creative ways of controlling, replicating, storing, and transmitting information, making new out of the old, and controlling a knowledge economy that serves their purposes.

However, we argue that when analysed from a more geopolitical and legal standpoint, as well as from a more economic and value theory perspective, the contemporary use of infrastructure space remains consistent with how capitalism has been expanding for centuries. The changes described above remain of an "organisational capacity and arrangement", and some are better explained as remnant temporalities, spatialities, or "back stories" of pre- and early capitalism. Through the concepts of "extrastatecraft" (Easterling 2016), "infrastructures of empire" (Aouragh and Chakravartty 2016), and how technological and legal infrastructures are supporting the imperial reach of the US (D'Eramo 2022; Hu 2016), the geopolitical lineages from 19th-century extraterritoriality to contemporary forms of legal imperialism reveal themselves. Moreover, from an economic perspective, logistics remain the nerve centre of capital accumulation (Mau, 2021; Chua 2021; Khalili 2020). These reflect ways in which infrastructure is used today as an invisible, indirect geopolitical strategy of management between contending actors, and show that what seems to be a new use of technology remains grounded in a set of classic geopolitical imperial rivalries. For "digital capitalism" to function, this space remains materially grounded, e.g., with undersea cables

owned largely by US telecommunications companies (Jung 2022), as well as immaterially grounded e.g., through “the ‘soft’ and more amorphous networks of cultural exchange shaped by European (and American) colonial power” (Aouragh and Chakravartty 2016, 564).

From a political and legal vantage point, the routing of information requires state and non-state infrastructure space, which can be described as “extrastatecraft” (Easterling 2016). “As a site of multiple, overlapping, or nested forms of sovereignty, where domestic and transnational jurisdictions collide, infrastructure space” as extrastatecraft is pushing further the boundaries of legal invisibility (Easterling 2016, 15). As a “secret weapon” of statecraft, “it orchestrates activities that can remain unstated” and Easterling uses three examples that make up various strata of this infrastructure space: the multiple types of free zones, the communication networks and cables for broadband, and global management standards by the International Organization for Standardization (ISO) (Ibid.). This work, illustrative of a Critical Infrastructure Studies approach, provides a useful basis to discuss the stubbornly capitalist logic operating in these spaces and the long-term entanglement of Big Tech with the state (see Parks 2015; Bhagat and Phillips 2023). Moreover, literature in communication studies focuses on the concepts of “data colonialism” (Thatcher, O’Sullivan, and Mahmoudi 2016; Couldry and Mejias 2019), “computational infrastructures” and “extractive infrastructures” (Aouragh et al. 2020; Buxton 2022), emphasising the colonial and racial logics of extraction and accumulation as central to capitalism today. These cloud infrastructures “generate harms and damage beyond ethical issues of privacy, ownership, and confidentiality. They displace agencies, funds and knowledge into apps and services and thereby slowly but surely contribute to the depletion of resources for public life” (Pritchard and Snelling 2022, 8). Thanks to these technologies, and notably through contact tracing apps during the Covid-19 pandemic, Big Tech companies “have externalized the risk of delivering services to workers who are stripped of labour rights and are made to carry the risk of health costs, lack of demand and damages” (Aouragh et al. 2020, 9.4).

Focusing more on the material aspects of these infrastructures, the example of undersea cables, essential for providing ninety-nine per cent of telecommunications today, is useful. They play a key role in the literature on vectoralism and techno-feudalism, conceived as tangible assets to “harvest and process data” (Rikap 2023, 151). However, they can also be used to justify a more imperialist analysis of international relations focused on the hegemonic role of the American empire through US companies, government, “Wall Street and military and intelligence agencies” (D’Eramo 2022, 11; see also McGeachy 2022). If constructing and owning these cables has become a top priority and competition for Big Tech, are cables a material, economic, and geopolitical mechanism of accumulation that remains nevertheless determined by capitalist social relations? Or is their role in increasing these companies’ intellectual monopolies and thus the phenomenon of rentier capitalism (or techno-feudalism) a sign that we are in a new mode of production? We cannot fully answer these questions here, but two elements seem crucial and point heavily in the balance of the first hypothesis; towards an explanation anchored on a capitalistic imperialist, geopolitical rivalry.

First, we see the rising importance of the security dimension regarding cables and related infrastructure, illustrated by the Nord Stream pipeline sabotage in September 2022, and by the threat made by Russia of sabotage in June 2023, leading to NATO officially focusing its efforts on this area (Bueger et al 2022; NATO 2023; Besch 2023). Second, there is a particular density to the “entanglement of the tech giants and the American state” (D’Eramo 2022, 11), today and in the early twentieth century (Morozov

2023), which is coupled with recent arguments for contemporary forms of “political capitalism” (Riley and Brenner 2022). These justify a focus on the emergence of two new European main hubs for cable landing (Bude, UK, and Marseille, France) as additional cases for taking an imperialist perspective to the development of these technologies. Bude will have nine cables arriving at its beaches by 2024 (Submarine Cable Map 2023), and Marseille will have sixteen cables landing in its port by 2025 (Marseille Fos 2023). These concentrated landing sites show the role of the state in managing and negotiating the location, construction and ownership of these cables, their landings by tech companies, and their impact on local and national economies that seek to gain from these shared investments. The location of Bude is not a coincidence. As the landing site for the 19th-century Telegram cable, its region is also connected to a history of state surveillance and data collection through its hosting of GCHQ, the UK’s third intelligence agency, which was found through Edward Snowden’s revelations, to be using cables to intercept personal communications and share it with its US counterpart, the NSA (Guardian 2013). Vodafone, a key player in these cable investments, vaunts on its website its ownership of twenty-five cables while also celebrating their history and “public” value:

From royalty and presidents to status updates and selfies, underwater cables have quietly been playing an indispensable role in our history and culture for the past century and a half (Lu 2020).

Google also celebrates, on its blog announcing the Grace Hopper cable landing at Bude, the idea that these companies are not only contributing but shaping and directing the future of cables as common goods key to economic progress:

We know that technology is only becoming more important for the U.K. economy ... improving the diversity and resilience of Google’s network is crucial to our ability to continue supporting one of the U.K.’s most vital sectors, as well as its long-term economic success ... we look forward to supporting the next great U.K. tech innovations (Stowell 2021).

If Easterling traces the lineages of her three cases of extrastatecraft to the late 19th century, it is also useful to further emphasise the links between today’s use of infrastructure to 19th-century imperial processes of extraterritoriality. Those links show similarities, not in the infrastructure itself, but in the ways it is deployed. The extraterritorial management of what was considered “semi-sovereign” space was a strategy deployed by dominant powers in place of overt colonialism (Raustiala 2009; Craven 2005). It was more indirect, more diplomatic, and more pernicious, in how it integrated notions of legal, political, ideological, and racial superiority. Overall, extraterritoriality and the use of unequal treaties in the 19th century were part of the expansion of international law as a capitalist and imperialist structure of geopolitical order.

Wark says very little about the horizontal class relations between the purportedly different types of surplus wealth extractors, i.e., the remaining capitalists and ascendant vectoralists. Looking back to 19th-century contending powers rivalries, we see how the five great powers and new empires (France, Britain, the US, Russia, and Germany) managed the transitions of the old empires of the Mediterranean and the East (e.g. China, Japan, the North African states, the Ottoman empire) into a new capitalist world economy, notably through the mechanism of extraterritoriality (Kayaoglu 2010). As a legal infrastructure, extraterritoriality helps us to think differently about the so-called vectoralist class today. Rather than assessing current extractive infrastructures as

signs of a new mode of production, we can similarly understand them as strategies to manage jurisdictional powers and hierarchies between contending actors; first between corporate tech giants and the now old but same “great power” states, and second between tech-giants and industry-based states (BRICS) (Chakravartty and Schiller 2010).

From a more economic perspective, improving and developing new “means of transportation and communication has been an integral part of the capitalist mode of production from its beginning”, because “capital is able to re-organise the global geography of production” (Mau 2021, 18). For Mau, contemporary logistics and infrastructures are another extreme manifestation of valorisation, “an apparatus for carving the logic of valorisation into the crust of the earth” (Ibid.). Beyond the powerful imagery, the idea is that valorisation, as an effect of real subsumption, i.e., “capital’s continuous remoulding of the technical and organisational aspects of the labour process” (Mau 2021, 15), overflows from that labour process and remoulds nature and geography too. In fact, Mau argues that not only is infrastructure today another key example of how capital shapes production, but it also reinforces it by making “it tremendously difficult to break with capitalism, since it increases the scale on which such a transformation would have to take place” (2021, 19). Thus, for Wark’s provocation and transition to be effective, it would need to show how vectoralists have taken over the valorisation of labour, nature, and geography at an unprecedented global scale.

If we take a view that de-centres the labour process and combines other processes – such as the commodification of nature, geography, and more specifically for us here, information and its alter-ego, attention (Davenport and Beck 2001), the specific changes to the labour-process that Wark focuses on as key criteria for the transition appear insufficient. In other words, when viewed in a broader global totality of how capital extracts value, even though it may be innovative, the core similarities between the exploitation of labour, nature, geography, and information reveal themselves. We return to a “levels of analysis” question, where, from a higher level of abstraction, change is more difficult to prove.

For Mau, this refers to Marx’s expression of the “mute compulsion” of capital (Marx 1990, 874) and is better understood through an analysis of “economic power” (Mau 2021; 2023). However, what we retain is the process of valorisation that economic power represents and how it is seen as “indirectly” affecting bodies (including brains) through the social and material environment (Mau 2021, 8). Mau’s work helps to remind us that this distance, this invisibility, this condition of being “unstated”, as Easterling writes, is at the core of capital accumulation. And it is *also* at the core of Wark’s argument as evidence for the death of capital. In this sense, the vectoralists are more indirect and invisible than the capitalists in how they operate. They indirectly extract value from information and our attention, they indirectly own the means of production (or technological infrastructure), they indirectly make a profit through advertisement and search engines (Morozov 2022), and they try to look like they are providing us with the means to be free, sociable, caring, creative, online communities. They are even more inauthentic than traditional capitalists. But at their core, they remain capitalists and they operate in a geopolitical context shaped by imperial rivalries as a latent dimension of the past e.g., 19th-century strategies and logics of international ordering.

4. Conclusion

Wark raises stimulating questions and is right to be critical of the limitations of labouring with a tired conceptual apparatus. That said, we argue that when her ideas are brought into dialogue with a thoroughgoing analysis of the breadth of digital capitalism, and

challenged through dialogue with broader critical traditions, it appears that capitalism is unlikely to be displaced any time soon. We remain in a digital world which looks extremely capitalist.

Through this dialogue, we argue for a more careful historicising of current changes in the global political economy. Setting aside the concept of the mode of production – better suited to a more *a posteriori* and higher level of abstraction – the article focuses instead on the potential for granular social change and the need to understand contemporary changes as linked to pre- and early capitalist social-property relations. We show how, in the realm of contemporary material infrastructures such as undersea cables, geopolitical imperial rivalries and indirect strategies of territorial management *à la* 19th-century extraterritoriality, remain a better way to understand current forms of accumulation and horizontal competition between dominant actors such as states and corporations.

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