

**The Critical Political Economy of Communications in  
Critical Times**

**Interview with Graham Murdock**

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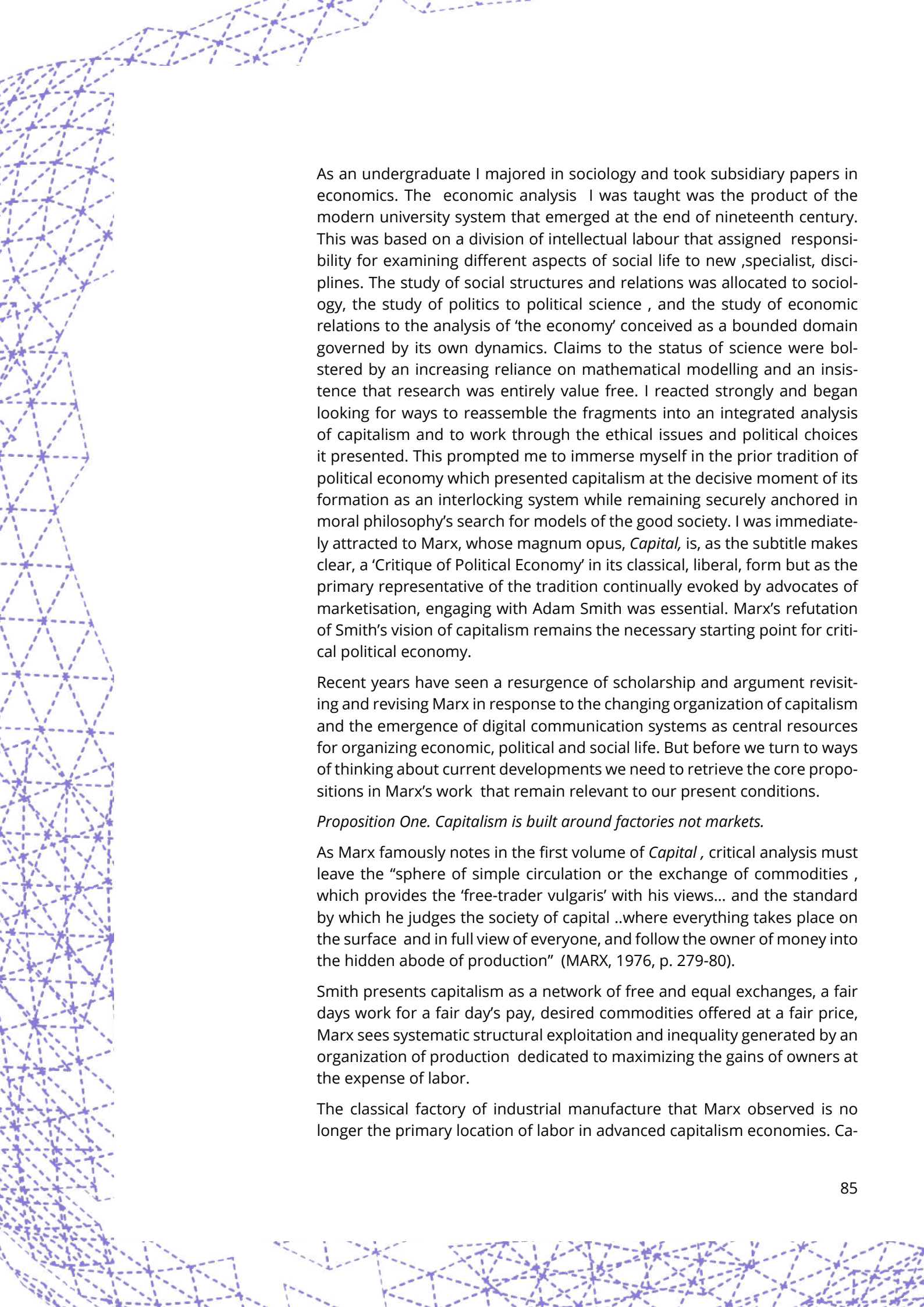


Graham Murdock é professor da Loughborough University, no Reino Unido. Considerado um dos fundadores da Economia Política da Comunicação, sua intensa produção teórica acompanha com olhar crítico o desenvolvimento do sistema capitalismo e de suas crises. É nesse sentido que se destacam análises recentes sobre financeirização e crise ambiental, as quais são relacionadas à dinâmica da comunicação, bem como a observação de caminhos para possíveis transformações na sociedade. Seus recentes trabalhos incluem, como co-editor: *Money Talks: Media, Markets, Crisis* (2015), *New Media and Metropolitan Life: Connecting, Consuming, Creating* (2015) e *Carbon Capitalism and Communication: Confronting Climate Change* (2017). Nesta entrevista, ele reflete sobre as transformações mais recentes no capitalismo e a contribuição da Economia Política da Comunicação para compreendê-las e transformá-las.

**Helena Martins – Since the 1970s, the Political Economy of Communication has analyzed the role of communication in capitalism. What is distinctive about the approach it has taken?**

**Graham Murdock** – To answer this question we need to return to the foundational moment in the formation of political economy as a domain of intellectual inquiry with Adam Smith’s analysis of Britain’s mercantile capitalism, *The Wealth of Nations*, published in 1776. Smith is celebrated on the contemporary political Right for his insistence that economic activity should be governed, to the greatest extent possible, by market competition between privately owned corporations with the minimum of state regulation and intervention. This liberal version of political economy (often now called the classical tradition) celebrates the personal liberty of entrepreneurs to enter the marketplace and the freedom of consumers to choose between the rival products on offer. Since the late 1970s it has experienced a militant revival as the ruling economic ideology of capitalism.

New or neo liberalism has been seized on by right wing politicisms to justify a radical rebalancing of relations between states and markets. Communication systems have been transformed. Core publicly owned and operated resources, including telecommunication networks, have been privatized. Commercial cable and satellite services have been encouraged to enter markets previously monopolized or dominated public broadcasters. Internet platforms have been legally designated as carriers not publishers exempting them from the editorial regulations governing established media. Advertising that integrates promotional messages into informational and entertainment forms, through sponsored content, product placement, coupled with on-line advergames and paid ‘influencers’, has proliferated more or less unchecked translating core spaces of public culture into an intensified arena of marketing.



As an undergraduate I majored in sociology and took subsidiary papers in economics. The economic analysis I was taught was the product of the modern university system that emerged at the end of nineteenth century. This was based on a division of intellectual labour that assigned responsibility for examining different aspects of social life to new, specialist, disciplines. The study of social structures and relations was allocated to sociology, the study of politics to political science, and the study of economic relations to the analysis of 'the economy' conceived as a bounded domain governed by its own dynamics. Claims to the status of science were bolstered by an increasing reliance on mathematical modelling and an insistence that research was entirely value free. I reacted strongly and began looking for ways to reassemble the fragments into an integrated analysis of capitalism and to work through the ethical issues and political choices it presented. This prompted me to immerse myself in the prior tradition of political economy which presented capitalism at the decisive moment of its formation as an interlocking system while remaining securely anchored in moral philosophy's search for models of the good society. I was immediately attracted to Marx, whose magnum opus, *Capital*, is, as the subtitle makes clear, a 'Critique of Political Economy' in its classical, liberal, form but as the primary representative of the tradition continually evoked by advocates of marketisation, engaging with Adam Smith was essential. Marx's refutation of Smith's vision of capitalism remains the necessary starting point for critical political economy.

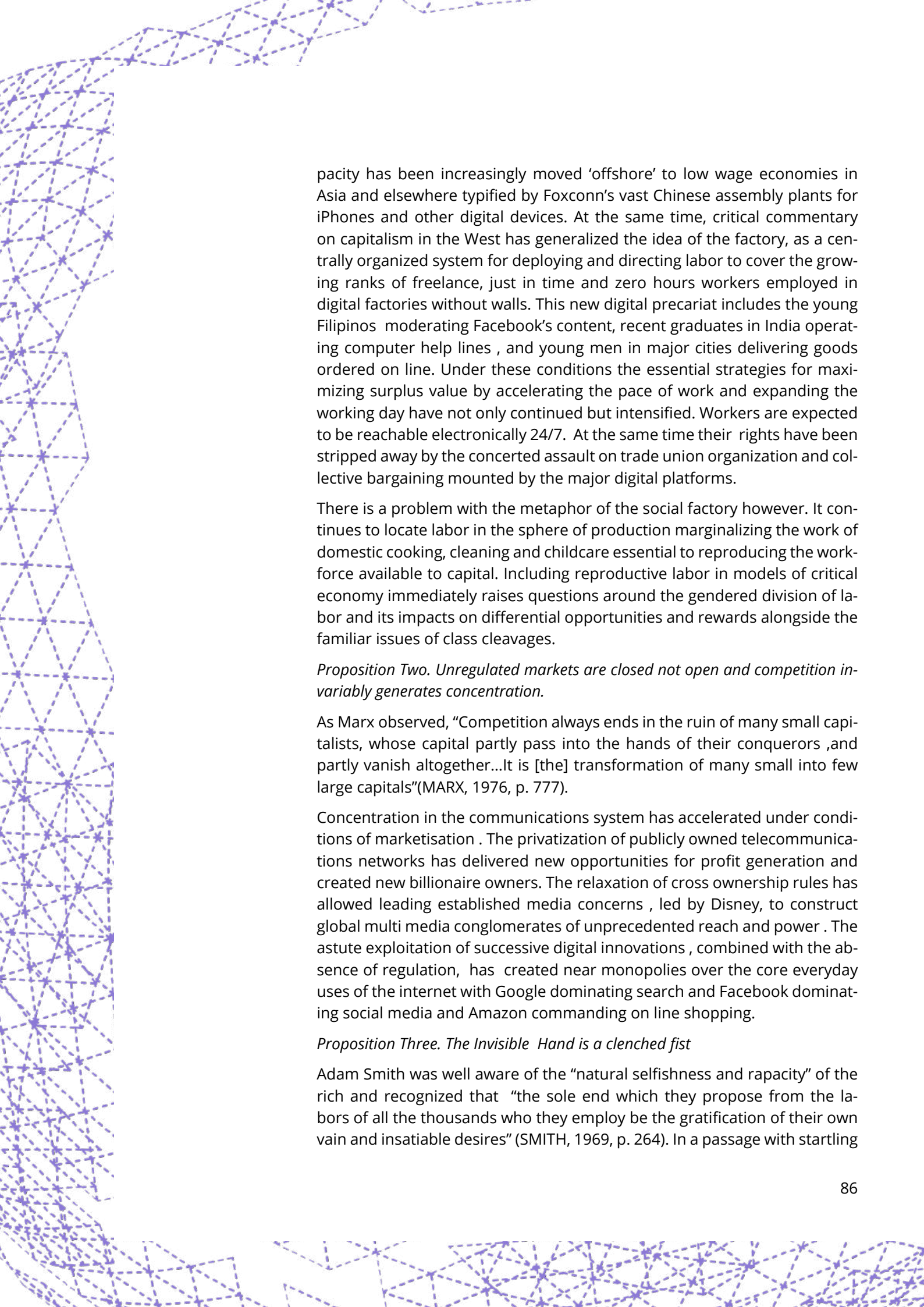
Recent years have seen a resurgence of scholarship and argument revisiting and revising Marx in response to the changing organization of capitalism and the emergence of digital communication systems as central resources for organizing economic, political and social life. But before we turn to ways of thinking about current developments we need to retrieve the core propositions in Marx's work that remain relevant to our present conditions.

*Proposition One. Capitalism is built around factories not markets.*

As Marx famously notes in the first volume of *Capital*, critical analysis must leave the "sphere of simple circulation or the exchange of commodities, which provides the 'free-trader vulgaris' with his views... and the standard by which he judges the society of capital... where everything takes place on the surface and in full view of everyone, and follow the owner of money into the hidden abode of production" (MARX, 1976, p. 279-80).

Smith presents capitalism as a network of free and equal exchanges, a fair day's work for a fair day's pay, desired commodities offered at a fair price, Marx sees systematic structural exploitation and inequality generated by an organization of production dedicated to maximizing the gains of owners at the expense of labor.

The classical factory of industrial manufacture that Marx observed is no longer the primary location of labor in advanced capitalism economies. Ca-



capacity has been increasingly moved 'offshore' to low wage economies in Asia and elsewhere typified by Foxconn's vast Chinese assembly plants for iPhones and other digital devices. At the same time, critical commentary on capitalism in the West has generalized the idea of the factory, as a centrally organized system for deploying and directing labor to cover the growing ranks of freelance, just in time and zero hours workers employed in digital factories without walls. This new digital precariat includes the young Filipinos moderating Facebook's content, recent graduates in India operating computer help lines, and young men in major cities delivering goods ordered on line. Under these conditions the essential strategies for maximizing surplus value by accelerating the pace of work and expanding the working day have not only continued but intensified. Workers are expected to be reachable electronically 24/7. At the same time their rights have been stripped away by the concerted assault on trade union organization and collective bargaining mounted by the major digital platforms.

There is a problem with the metaphor of the social factory however. It continues to locate labor in the sphere of production marginalizing the work of domestic cooking, cleaning and childcare essential to reproducing the workforce available to capital. Including reproductive labor in models of critical economy immediately raises questions around the gendered division of labor and its impacts on differential opportunities and rewards alongside the familiar issues of class cleavages.

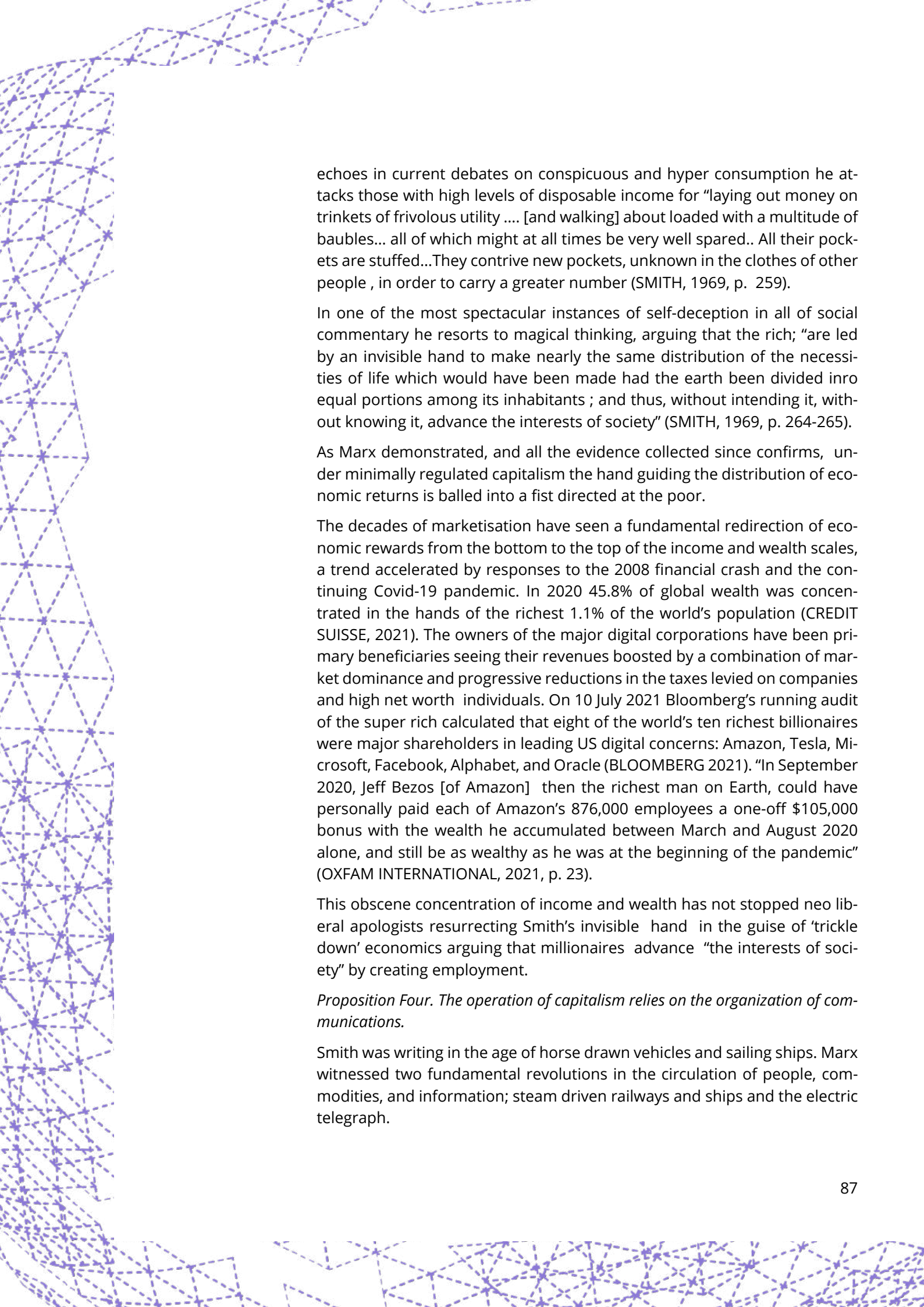
*Proposition Two. Unregulated markets are closed not open and competition invariably generates concentration.*

As Marx observed, "Competition always ends in the ruin of many small capitalists, whose capital partly pass into the hands of their conquerors, and partly vanish altogether...It is [the] transformation of many small into few large capitals"(MARX, 1976, p. 777).

Concentration in the communications system has accelerated under conditions of marketisation. The privatization of publicly owned telecommunications networks has delivered new opportunities for profit generation and created new billionaire owners. The relaxation of cross ownership rules has allowed leading established media concerns, led by Disney, to construct global multi media conglomerates of unprecedented reach and power. The astute exploitation of successive digital innovations, combined with the absence of regulation, has created near monopolies over the core everyday uses of the internet with Google dominating search and Facebook dominating social media and Amazon commanding on line shopping.

*Proposition Three. The Invisible Hand is a clenched fist*

Adam Smith was well aware of the "natural selfishness and rapacity" of the rich and recognized that "the sole end which they propose from the labors of all the thousands who they employ be the gratification of their own vain and insatiable desires" (SMITH, 1969, p. 264). In a passage with startling



echoes in current debates on conspicuous and hyper consumption he attacks those with high levels of disposable income for “laying out money on trinkets of frivolous utility .... [and walking] about loaded with a multitude of baubles... all of which might at all times be very well spared.. All their pockets are stuffed...They contrive new pockets, unknown in the clothes of other people , in order to carry a greater number (SMITH, 1969, p. 259).

In one of the most spectacular instances of self-deception in all of social commentary he resorts to magical thinking, arguing that the rich; “are led by an invisible hand to make nearly the same distribution of the necessities of life which would have been made had the earth been divided into equal portions among its inhabitants ; and thus, without intending it, without knowing it, advance the interests of society” (SMITH, 1969, p. 264-265).

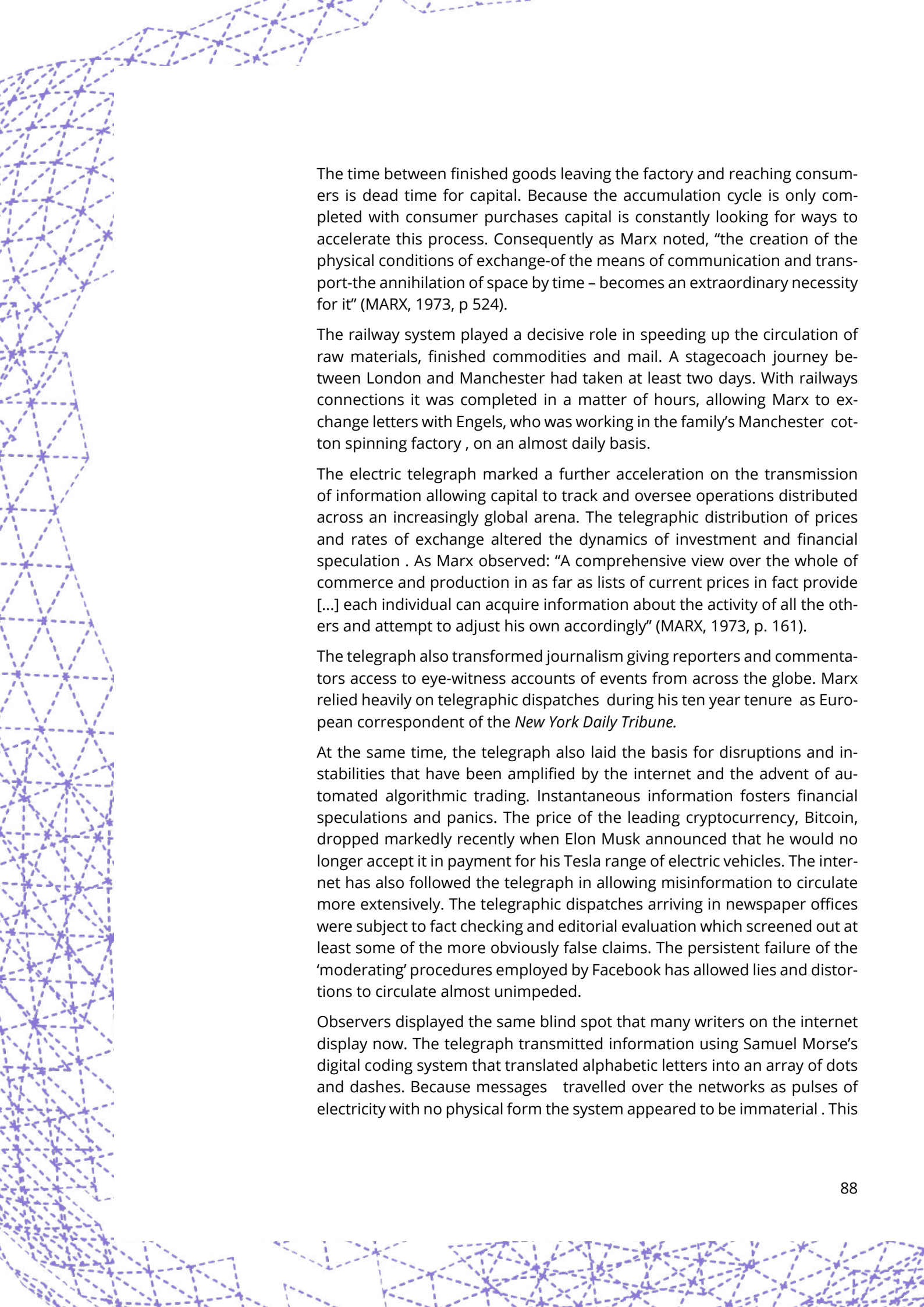
As Marx demonstrated, and all the evidence collected since confirms, under minimally regulated capitalism the hand guiding the distribution of economic returns is balled into a fist directed at the poor.

The decades of marketisation have seen a fundamental redirection of economic rewards from the bottom to the top of the income and wealth scales, a trend accelerated by responses to the 2008 financial crash and the continuing Covid-19 pandemic. In 2020 45.8% of global wealth was concentrated in the hands of the richest 1.1% of the world’s population (CREDIT SUISSE, 2021). The owners of the major digital corporations have been primary beneficiaries seeing their revenues boosted by a combination of market dominance and progressive reductions in the taxes levied on companies and high net worth individuals. On 10 July 2021 Bloomberg’s running audit of the super rich calculated that eight of the world’s ten richest billionaires were major shareholders in leading US digital concerns: Amazon, Tesla, Microsoft, Facebook, Alphabet, and Oracle (BLOOMBERG 2021). “In September 2020, Jeff Bezos [of Amazon] then the richest man on Earth, could have personally paid each of Amazon’s 876,000 employees a one-off \$105,000 bonus with the wealth he accumulated between March and August 2020 alone, and still be as wealthy as he was at the beginning of the pandemic” (OXFAM INTERNATIONAL, 2021, p. 23).

This obscene concentration of income and wealth has not stopped neo liberal apologists resurrecting Smith’s invisible hand in the guise of ‘trickle down’ economics arguing that millionaires advance “the interests of society” by creating employment.

*Proposition Four. The operation of capitalism relies on the organization of communications.*

Smith was writing in the age of horse drawn vehicles and sailing ships. Marx witnessed two fundamental revolutions in the circulation of people, commodities, and information; steam driven railways and ships and the electric telegraph.



The time between finished goods leaving the factory and reaching consumers is dead time for capital. Because the accumulation cycle is only completed with consumer purchases capital is constantly looking for ways to accelerate this process. Consequently as Marx noted, “the creation of the physical conditions of exchange-of the means of communication and transport-the annihilation of space by time – becomes an extraordinary necessity for it” (MARX, 1973, p 524).


The railway system played a decisive role in speeding up the circulation of raw materials, finished commodities and mail. A stagecoach journey between London and Manchester had taken at least two days. With railway connections it was completed in a matter of hours, allowing Marx to exchange letters with Engels, who was working in the family’s Manchester cotton spinning factory , on an almost daily basis.

The electric telegraph marked a further acceleration on the transmission of information allowing capital to track and oversee operations distributed across an increasingly global arena. The telegraphic distribution of prices and rates of exchange altered the dynamics of investment and financial speculation . As Marx observed: “A comprehensive view over the whole of commerce and production in as far as lists of current prices in fact provide [...] each individual can acquire information about the activity of all the others and attempt to adjust his own accordingly” (MARX, 1973, p. 161).

The telegraph also transformed journalism giving reporters and commentators access to eye-witness accounts of events from across the globe. Marx relied heavily on telegraphic dispatches during his ten year tenure as European correspondent of the *New York Daily Tribune*.

At the same time, the telegraph also laid the basis for disruptions and instabilities that have been amplified by the internet and the advent of automated algorithmic trading. Instantaneous information fosters financial speculations and panics. The price of the leading cryptocurrency, Bitcoin, dropped markedly recently when Elon Musk announced that he would no longer accept it in payment for his Tesla range of electric vehicles. The internet has also followed the telegraph in allowing misinformation to circulate more extensively. The telegraphic dispatches arriving in newspaper offices were subject to fact checking and editorial evaluation which screened out at least some of the more obviously false claims. The persistent failure of the ‘moderating’ procedures employed by Facebook has allowed lies and distortions to circulate almost unimpeded.

Observers displayed the same blind spot that many writers on the internet display now. The telegraph transmitted information using Samuel Morse’s digital coding system that translated alphabetic letters into an array of dots and dashes. Because messages travelled over the networks as pulses of electricity with no physical form the system appeared to be immaterial . This



perception ignored the obvious fact that the telegraph rested on a thoroughly material array of wires, poles, and telegraphic machines.

*Proposition Five. The possibility of building solidarities around a shared experiences of exploitation is continually undercut by the celebration of commodities and consumption as the primary spaces of self- realization*

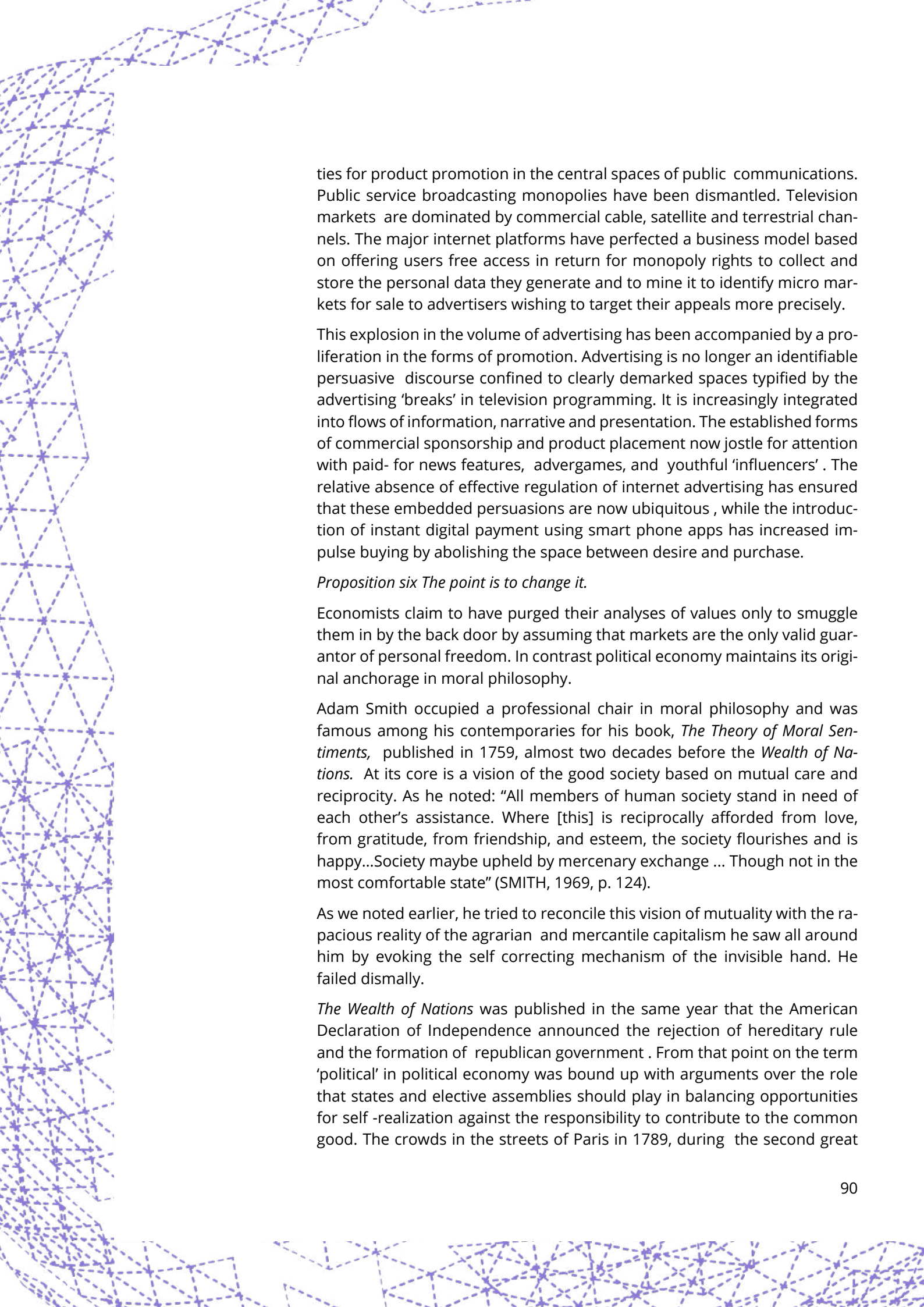
Marx begins *Capital* with a chapter on commodities underlining their pivotal ideological role in legitimating capitalism's unequal relations. "It is" he argues "precisely this finished form of the world of commodities ..which conceals the social character of labor and the social relations between workers" (MARX, 1976, p. 168-169). Borrowing the idea of fetishism from his reading on religion he notes that commodities present themselves, not as the products of human invention and labor, but as "autonomous figures endowed with a life of their own" (MARX,1976, p. 165).

The Catholic cathedral in Marx's birthplace, Trier, contained one of the most valued fetish objects in Christendom, the jacket that Christ was supposed to have worn as he carried his cross to the execution ground. It was periodically put on public display and pilgrims from all over Europe came to touch it in the hope of cures for illness and improvements in their fortunes. They could buy souvenir replicas of the jacket to take home. The entire apparatus of modern advertising and marketing is dedicated to reproducing this sense that the most effective, and perhaps the only, way to improve your life and well-being is to possess branded objects with the transformative power to boost your health, make you more attractive and beautiful, and arouse the admiration of spectators.

It is a profoundly individualist perception of the world. Advertising projects attention relentlessly forward, celebrating the promised pleasures of possession. The exploited human labor and environmental destruction entailed in producing commodities is consigned to silence and invisibility. All references to shared conditions and risks that could form the basis for solidarity are deleted.

Advertising is one of the central ideological devices through which capitalism secures popular compliance. It translates the abstract ideal of social and economic 'progress' into tangible , purchasable , objects that promise enhanced convenience, pleasure and self-fulfillment.

Marketisation has seen a massive expansion and intensification of consumption. From the mid 1970s onwards the major capitalist societies of the West experienced a deepening structural crisis of accumulation . Boosting consumption has been one of the major strategies deployed to restore profitability. At the same time, the turn to enterprise and markets in India and post Mao China, has fueled a surge in consumption in two of the globe's major economies, supported by the rising incomes of the new middle class. These shifts have been accompanied by a huge extension of opportuni-



ties for product promotion in the central spaces of public communications. Public service broadcasting monopolies have been dismantled. Television markets are dominated by commercial cable, satellite and terrestrial channels. The major internet platforms have perfected a business model based on offering users free access in return for monopoly rights to collect and store the personal data they generate and to mine it to identify micro markets for sale to advertisers wishing to target their appeals more precisely.

This explosion in the volume of advertising has been accompanied by a proliferation in the forms of promotion. Advertising is no longer an identifiable persuasive discourse confined to clearly demarked spaces typified by the advertising 'breaks' in television programming. It is increasingly integrated into flows of information, narrative and presentation. The established forms of commercial sponsorship and product placement now jostle for attention with paid-for news features, advergames, and youthful 'influencers'. The relative absence of effective regulation of internet advertising has ensured that these embedded persuasions are now ubiquitous, while the introduction of instant digital payment using smart phone apps has increased impulse buying by abolishing the space between desire and purchase.

*Proposition six The point is to change it.*

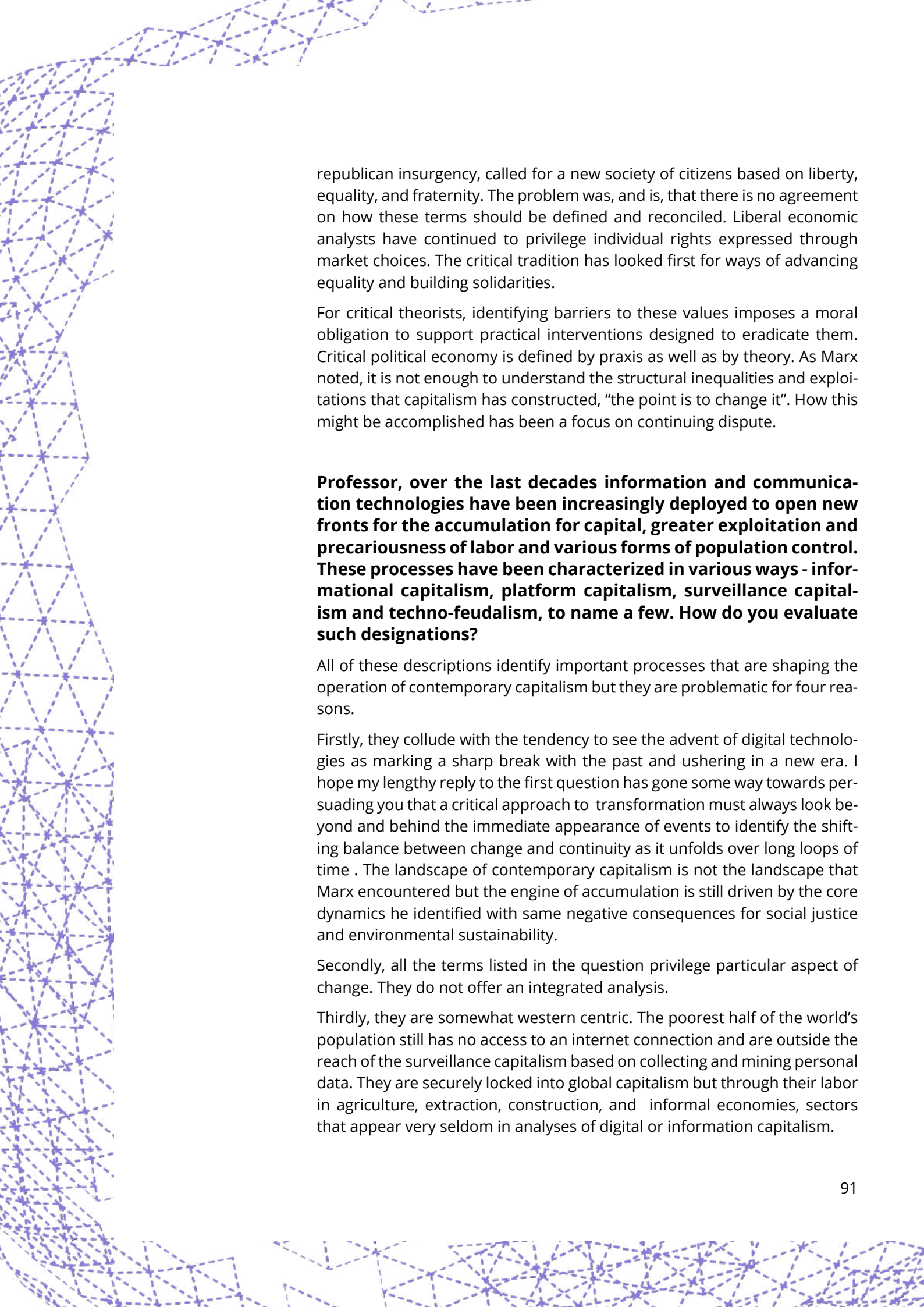
Economists claim to have purged their analyses of values only to smuggle them in by the back door by assuming that markets are the only valid guarantor of personal freedom. In contrast political economy maintains its original anchorage in moral philosophy.

Adam Smith occupied a professional chair in moral philosophy and was famous among his contemporaries for his book, *The Theory of Moral Sentiments*, published in 1759, almost two decades before the *Wealth of Nations*. At its core is a vision of the good society based on mutual care and reciprocity. As he noted: "All members of human society stand in need of each other's assistance. Where [this] is reciprocally afforded from love, from gratitude, from friendship, and esteem, the society flourishes and is happy...Society maybe upheld by mercenary exchange ... Though not in the most comfortable state" (SMITH, 1969, p. 124).

As we noted earlier, he tried to reconcile this vision of mutuality with the rapacious reality of the agrarian and mercantile capitalism he saw all around him by evoking the self-correcting mechanism of the invisible hand. He failed dismally.

*The Wealth of Nations* was published in the same year that the American Declaration of Independence announced the rejection of hereditary rule and the formation of republican government. From that point on the term 'political' in political economy was bound up with arguments over the role that states and elective assemblies should play in balancing opportunities for self-realization against the responsibility to contribute to the common good. The crowds in the streets of Paris in 1789, during the second great





republican insurgency, called for a new society of citizens based on liberty, equality, and fraternity. The problem was, and is, that there is no agreement on how these terms should be defined and reconciled. Liberal economic analysts have continued to privilege individual rights expressed through market choices. The critical tradition has looked first for ways of advancing equality and building solidarities.

For critical theorists, identifying barriers to these values imposes a moral obligation to support practical interventions designed to eradicate them. Critical political economy is defined by praxis as well as by theory. As Marx noted, it is not enough to understand the structural inequalities and exploitations that capitalism has constructed, “the point is to change it”. How this might be accomplished has been a focus on continuing dispute.


**Professor, over the last decades information and communication technologies have been increasingly deployed to open new fronts for the accumulation for capital, greater exploitation and precariousness of labor and various forms of population control. These processes have been characterized in various ways - informational capitalism, platform capitalism, surveillance capitalism and techno-feudalism, to name a few. How do you evaluate such designations?**

All of these descriptions identify important processes that are shaping the operation of contemporary capitalism but they are problematic for four reasons.

Firstly, they collude with the tendency to see the advent of digital technologies as marking a sharp break with the past and ushering in a new era. I hope my lengthy reply to the first question has gone some way towards persuading you that a critical approach to transformation must always look beyond and behind the immediate appearance of events to identify the shifting balance between change and continuity as it unfolds over long loops of time . The landscape of contemporary capitalism is not the landscape that Marx encountered but the engine of accumulation is still driven by the core dynamics he identified with same negative consequences for social justice and environmental sustainability.

Secondly, all the terms listed in the question privilege particular aspect of change. They do not offer an integrated analysis.


Thirdly, they are somewhat western centric. The poorest half of the world's population still has no access to an internet connection and are outside the reach of the surveillance capitalism based on collecting and mining personal data. They are securely locked into global capitalism but through their labor in agriculture, extraction, construction, and informal economies, sectors that appear very seldom in analyses of digital or information capitalism.



Fourthly, by placing the application of digital technologies at the center of analysis these characterizations are pulled towards technological determinism. Launching analysis by examining the nature of new technologies and their applications is a dead end. Critical inquiry must always start by asking questions about power. Who determines which machines will be built and what they will be used for?

The age of digital media is also the age of marketisation which, as we noted earlier, has seen governments selling publicly owned communications resources and retreating for regulating corporations in the public interest. The result has been a massive consolidation of control over the direction of technological development in the hands of the leading corporations. The idea of techno-feudalism characterizes this rebalancing of relations between capital and the state by invoking the relations between a weak central authority and clusters of powerful barons. The billionaire owners of the major digital platforms are presented as the new feudal lords, exercising total personal control over their domains and relegating users to the status of serfs, required to work the baron's land in return for rights of access to resources employed for their personal use.

This is a provocative comparison but it misses a more important reason for contemporary analysis to look again at the feudal period. In the most impassioned chapter in the first volume of *Capital* Marx examines the sources of much of the wealth invested in early industrialization. He identifies two: the slave trade and the English enclosure movement. From the beginning of the feudal period England witnessed constant struggles over resources held in common. Peasants' traditional rights to graze cattle and sheep on common land and to gather fallen wood and wild foods and medicinal plants in the woods and forests, were persistently eroded by lords who erected fences and claimed the commons as private property. Marx entitles the chapter detailing this process, 'Primitive Accumulation'. A better translation is 'initial' or 'early'. The enclosure of the agricultural commons was not the end of a process but the beginning. Indigenous peoples are continually contesting contemporary capitalist seizures of their lands and rights. There are frequent struggles over the appropriation of public space in cities for commercial developments. The colonization of the internet by the platform majors is the latest arena of enclosure. The basic architecture of the internet and most of the key innovations incorporated into the major digital devices sold to consumers were developed by publicly funded research projects. In a spectacular contemporary instance of enclosure the digital majors have appropriated them, made mega profits returning as little as possible to the public purse in taxes, and protected their variants on the core inventions behind impregnable legal walls of patents.



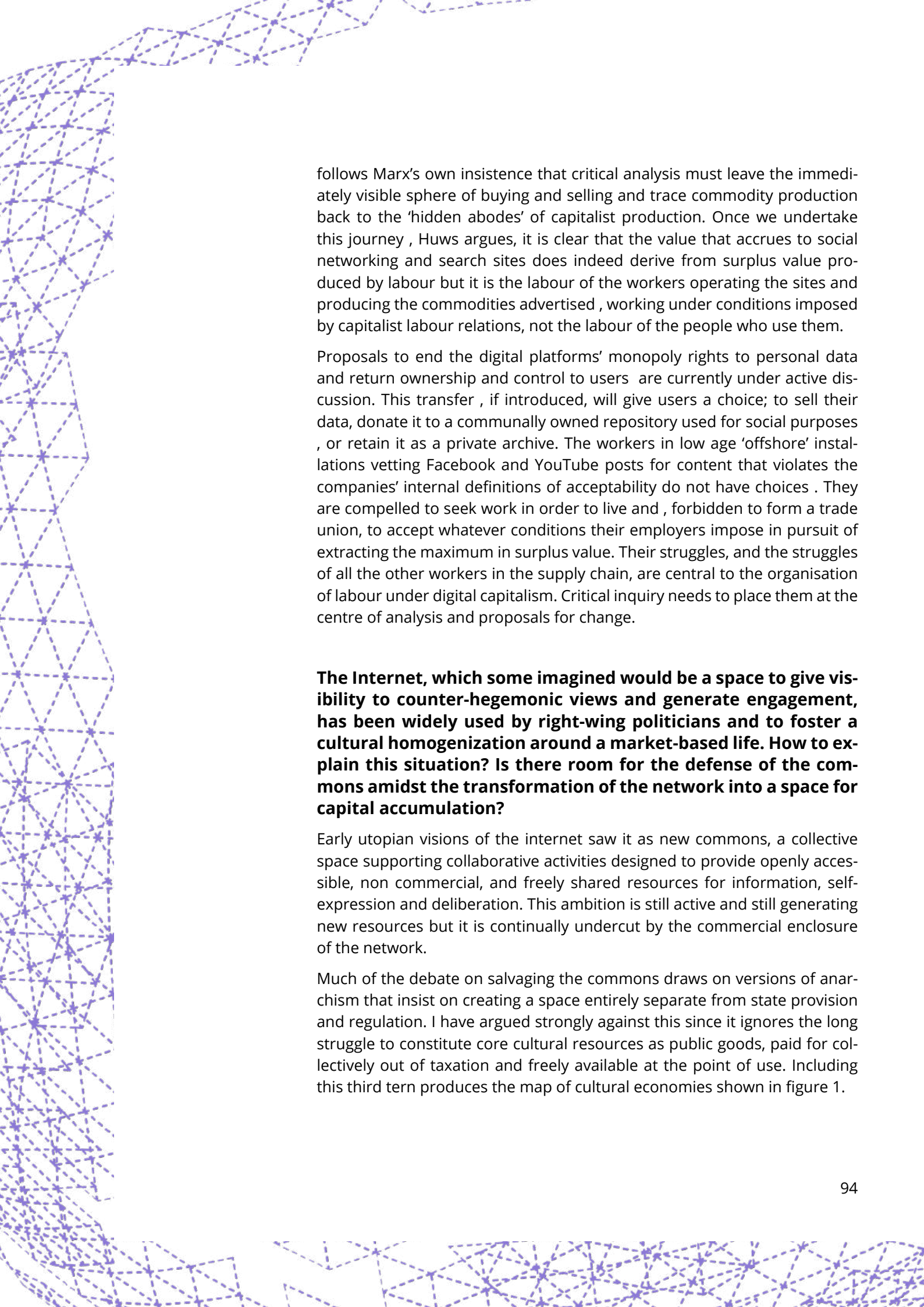
**Debates around the production of value on digital platforms, from the collection and mining of personal data and the free work of users posting content have intensified during the Covid 19 pandemic as everyday social life has increasingly migrated on line. How do you see these issues?**

Some years ago I was involved in a debate with the late Dallas Smythe over the labour performed by television audiences. He put forward two basic arguments.

Firstly, he argued, entirely correctly, that since commercial television was funded out of the money advertisers paid to gain access to viewers, the principle commodity traded within the industry was the size and quality of audience attention. Like the free peanuts offered to drinkers in a cocktail bar, the programs were there to produce the audience as commodity by encouraging them to stay around for the next advertising break. As a description of the industry's economic base this was entirely unoriginal and known to everyone working in commercial broadcasting. I pointed out that it did not apply to public service channels funded entirely out of taxation, like the BBC in Britain, and that an independent analysis of the program content and its ideological impacts remained essential to a full account of television's social role. In his eagerness to restore commodification to the centre of Marxist analysis against what he saw as the over emphasis on ideology within Western Marxism Smythe had, in my view, jettisoned an indispensable dimension of analysis. Since communication is self-evidently both an economic system and an arena of signification it was for me a question of both/and not either/or.

The second part of his argument, that audiences watching ads were engaged in the unpaid labour of selling goods to themselves through their emotional investment in brands, was more interesting and more provocative. The arrival of the platform capitalism developed by Facebook and Google has invested this argument with new urgency for two reasons. Firstly, users' engagement with whatever is on the screen can now be collected as a cumulative store of personal data and mined by computer software to generate detailed profiles of likes and preferences for sale to advertisers wishing to promote their brands more precisely and effectively. Data is the new commodity. Secondly, much of the content posted on digital platform is created or reposted by users without payment.

In an influential intervention Christian Fuchs has argued that all the time that users spend on line is productive labour time for capital and generates surplus value and because they are unpaid they are infinitely exploited. As Ursula Huws has pointed out however, this argument relies on an expansive definition of commodities that identifies them with any good that is bought and sold. She prefers a narrower definition that takes the capitalist labour relationship as its starting point rather than market transactions. This



follows Marx's own insistence that critical analysis must leave the immediately visible sphere of buying and selling and trace commodity production back to the 'hidden abodes' of capitalist production. Once we undertake this journey, Huws argues, it is clear that the value that accrues to social networking and search sites does indeed derive from surplus value produced by labour but it is the labour of the workers operating the sites and producing the commodities advertised, working under conditions imposed by capitalist labour relations, not the labour of the people who use them.

Proposals to end the digital platforms' monopoly rights to personal data and return ownership and control to users are currently under active discussion. This transfer, if introduced, will give users a choice; to sell their data, donate it to a communally owned repository used for social purposes, or retain it as a private archive. The workers in low wage 'offshore' installations vetting Facebook and YouTube posts for content that violates the companies' internal definitions of acceptability do not have choices. They are compelled to seek work in order to live and, forbidden to form a trade union, to accept whatever conditions their employers impose in pursuit of extracting the maximum in surplus value. Their struggles, and the struggles of all the other workers in the supply chain, are central to the organisation of labour under digital capitalism. Critical inquiry needs to place them at the centre of analysis and proposals for change.

**The Internet, which some imagined would be a space to give visibility to counter-hegemonic views and generate engagement, has been widely used by right-wing politicians and to foster a cultural homogenization around a market-based life. How to explain this situation? Is there room for the defense of the commons amidst the transformation of the network into a space for capital accumulation?**

Early utopian visions of the internet saw it as new commons, a collective space supporting collaborative activities designed to provide openly accessible, non commercial, and freely shared resources for information, self-expression and deliberation. This ambition is still active and still generating new resources but it is continually undercut by the commercial enclosure of the network.

Much of the debate on salvaging the commons draws on versions of anarchism that insist on creating a space entirely separate from state provision and regulation. I have argued strongly against this since it ignores the long struggle to constitute core cultural resources as public goods, paid for collectively out of taxation and freely available at the point of use. Including this third term produces the map of cultural economies shown in figure 1.

**Figure 1** Three Cultural Economies

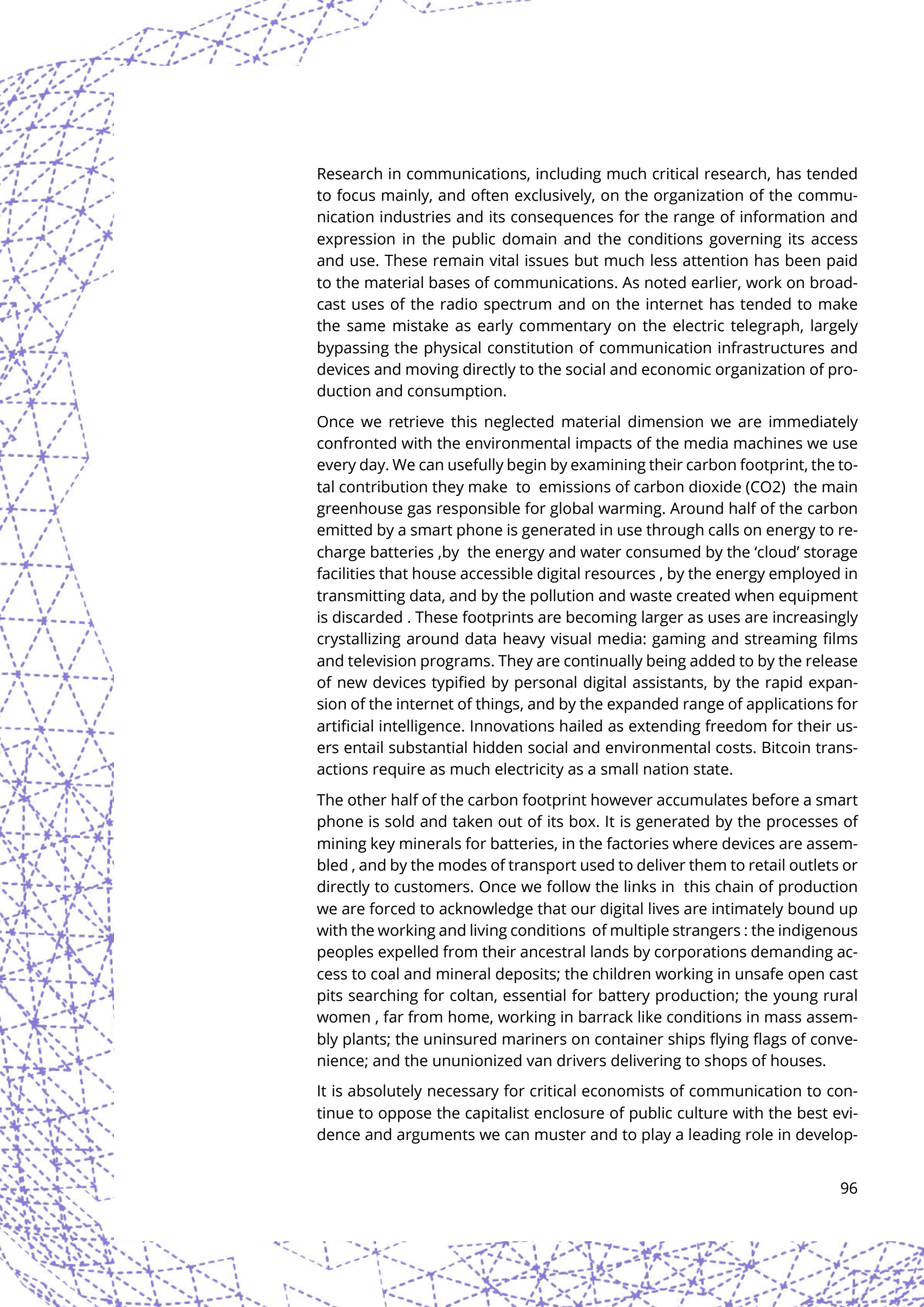
<b>Spheres</b>	Capital	Government	Civil society
<b>Goods</b>	Commodities	Public goods	Gifts
<b>Arenas</b>	Markets	Polities	Networks
<b>Payments</b>	Prices	Taxes	Reciprocities
<b>Relations</b>	Personal possession	Shared access	Co-creation

The history of the internet is also a history of the progressive digitalization of public cultural goods. Museums, libraries and public art galleries are making their collections and expertise freely available on -line. Universities are creating public repositories of research and publications. Public theatres and concert halls are streaming performances. When thinking about building the digital commons then we need to think about ways of combining the two non commodified cultural economies , of public goods and gifts.

This project poses formidable problems. Where should the balance between vernacular contributions and professional expertise be struck? What are the limits of inclusiveness? How should lies, misinformation and conspiracy theories be addressed? Which public institution is best suited to serve as a central node, organizing access to the full range of materials and spaces relevant to users' needs? How can public service institutions be protected from political capture or abolition by governments intent of promoting partisan conceptions of the public interest? The contemporary resurgence of authoritarian populist regimes is a chilling reminder of how fragile the foundational principles of democracy are and how they have to be continually fought for. The struggle for the digital commons is a struggle for a truly inclusive social and cultural space that cultivates recognition, respect and care for strangers against the possessive individualism of commodification and definitions of the 'people' erected on the basis of ethnic and other markers of difference and exclusion.

**In your recent work you have alerted us to the need to explore the material bases of communication infrastructures and devices and their contribution to the deepening climate and environmental crises. How, based on the Political Economy of Communication, can we develop a research agenda on the subject?**

As the daily bulletins detailing extreme heat waves, wild fires, droughts and floods remind us, the struggle for the digital commons is part of the wider struggle against the mounting devastation caused of marketized capitalism's deployment of digital technologies in the service of accelerated accumulation. Widening social inequalities and deepening injustices are inextricably bound up with environmental despoilation and climate crisis.




Research in communications, including much critical research, has tended to focus mainly, and often exclusively, on the organization of the communication industries and its consequences for the range of information and expression in the public domain and the conditions governing its access and use. These remain vital issues but much less attention has been paid to the material bases of communications. As noted earlier, work on broadcast uses of the radio spectrum and on the internet has tended to make the same mistake as early commentary on the electric telegraph, largely bypassing the physical constitution of communication infrastructures and devices and moving directly to the social and economic organization of production and consumption.

Once we retrieve this neglected material dimension we are immediately confronted with the environmental impacts of the media machines we use every day. We can usefully begin by examining their carbon footprint, the total contribution they make to emissions of carbon dioxide (CO<sub>2</sub>) the main greenhouse gas responsible for global warming. Around half of the carbon emitted by a smart phone is generated in use through calls on energy to recharge batteries, by the energy and water consumed by the 'cloud' storage facilities that house accessible digital resources, by the energy employed in transmitting data, and by the pollution and waste created when equipment is discarded. These footprints are becoming larger as uses are increasingly crystallizing around data heavy visual media: gaming and streaming films and television programs. They are continually being added to by the release of new devices typified by personal digital assistants, by the rapid expansion of the internet of things, and by the expanded range of applications for artificial intelligence. Innovations hailed as extending freedom for their users entail substantial hidden social and environmental costs. Bitcoin transactions require as much electricity as a small nation state.

The other half of the carbon footprint however accumulates before a smart phone is sold and taken out of its box. It is generated by the processes of mining key minerals for batteries, in the factories where devices are assembled, and by the modes of transport used to deliver them to retail outlets or directly to customers. Once we follow the links in this chain of production we are forced to acknowledge that our digital lives are intimately bound up with the working and living conditions of multiple strangers: the indigenous peoples expelled from their ancestral lands by corporations demanding access to coal and mineral deposits; the children working in unsafe open cast pits searching for coltan, essential for battery production; the young rural women, far from home, working in barrack like conditions in mass assembly plants; the uninsured mariners on container ships flying flags of convenience; and the ununionized van drivers delivering to shops of houses.

It is absolutely necessary for critical economists of communication to continue to oppose the capitalist enclosure of public culture with the best evidence and arguments we can muster and to play a leading role in develop-



ing feasible proposals for building an inclusive digital commons, but under current conditions it is no longer enough. We urgently need to confront the social injustices and environmental catastrophes generated by the material organization of present and planned digital networks and devices and enlist in the struggle for alternatives that reduce emissions to net zero, move to sustainable materials and minimal waste, and ensure that lives at every stage of the production chain are lived in dignity and freedom from want and exploitation. Without this commitment, any proposal for alternative ways of organizing communications, no matter how radical at the level of immediate social organization and cultural ambition, will remain part of the problem rather than part of the solution.

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