

Chapter 10

The Dark Side of Cryptomarkets: Towards a New Dialectic of Self-Exploitation Within Platform Capitalism

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Abstract

This chapter examines how darknet drug marketplaces operate within platform capitalism. While capitalist power relations remain underexplored in research on digital drug markets, the analysis shows that the basic foundation of cryptomarkets relies on the infrastructure of platform capitalism. The authors use the concept of platform capitalism to explore cryptomarkets in an ideology-critical way. Platforms are infrastructure for the mediation of buyers and vendors; however, they are designed to extract data on the activities of their users. Platform capitalism refers to the process by which the vast collection of user data feeds into the accumulation of capital. The authors use a dialectical method to examine the constellation of digital drug platforms by disclosing a threefold contradiction: state control and self-regulation; visibility and concealment; and legality and illegality. The analysis reveals that darknet drug platforms make a profit not only from the trade of illicit drugs and the collection of user data, but also based on the illegal status of drugs, the associated ideology, and the closed ecology of darknet platforms. Power relations in cryptomarkets thereby mimic those observed in platform capitalism in general. Finally, the authors discuss the implications of platform capitalism for online drug markets.

Keywords: Online drug markets; platform capitalism; dialectical method; cryptomarkets; user data; algorithms

Digital Transformations of Illicit Drug Markets: Reconfiguration and Continuity, 141–154



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Introducing Digital Transformations and Cryptomarkets

This chapter aims to contribute to critical criminology and critical Internet studies by examining ways in which capitalism linked to crime reproduces itself in the digital age. In particular, we will study ways in which digital platforms for the distribution of illicit drugs are embedded in a contemporary form of capitalism that shapes the zeitgeist, namely platform capitalism. By doing so, we ask if the power relations to be observed in the digital realm are essentially 'new' or rather 'more of the same'? Thus, we connect sociological and criminological literature on crime with interdisciplinary studies of the digital economy. Our approach is based on the assumption that crime in a digital society (Lupton, 2015) can be understood and explained by taking into account the political economy it is situated in. This may include broader social, cultural, political, and economic conditions of the given society; in other words, the ways in which the macrolevel determinants shape crime and societal reactions to deviant groups.

As an empirical example, this contribution addresses the field of digital drug platforms, which have also been termed cryptomarkets (Martin, 2014a) and are regarded as a 'transformative criminal innovation' (Aldridge and Décary-Héту, 2014). Since 2011, cryptomarket operators have used a variety of information and communication technologies (ICT), enabling their users to disguise their digital traces and access a wide range of illicit drugs, among other goods and services. Customers may place orders beyond space and time, which are delivered by traditional postal services without the knowledge of the content. What is new to this phenomenon is the combination of anonymising technologies (e.g. Tor browser) with cryptocurrencies (e.g. Bitcoin) as a non-government-issued means of payment where the identity of the user does not have to be disclosed (Barratt and Aldridge, 2016; Martin et al., 2019). The use of these digital technologies enables the systematic distribution of drugs between those who act and those who consume them and makes police investigations more difficult (Tzanetakis and Stöver, 2019).

We suggest that to understand the phenomenon of cryptomarkets in the context of digital transformations (which involve a large number of different developments and entail a negotiable change in society, business, and politics), we need to explore these ongoing transformations as the result of an interaction between digital technologies and people in a social context (Stanfill, 2015; Craciunescu and South, 2023, Chapter 7). Over the past 30 years, these technologies have permeated the everyday life of people in the Global North in very different areas such as crime, communication, consumption, economy, work, health, culture, education, and science (Lupton, 2015). The development of ICT can be divided into three time periods (Lupton, 2015; Stratton et al., 2017):

1. In the pre-Internet era of the 1980s and early 1990s, workplaces and public institutions were increasingly equipped with personal computers (PCs), and electronic data storage and closed private networks were promoted; they resulted in new forms of crime (mainly white-collar) through misuse of technology.
2. The global Internet era of the 1990s and early 2000s was characterised by the increasing prevalence of desktop PCs or laptops and a significant increase in

Internet usage with the introduction of the ‘World Wide Web’. The increasing accessibility of digital information was accompanied by increased opportunities for transgression, including financial fraud, data theft, identity crime, and child sexual exploitation.

3. The age of the interactive Internet since the 2000s is defined by the ubiquity of wireless and broadband Internet access, cloud computing, smartphones and tablets, and social media platforms. These technologies enabled users to be connected to the Internet independently of space and time and to create user-generated content and to share it with other users. At the same time, cyberbullying, cyberstalking, and online harassment have become new deviant cyber phenomena, especially in relation to vulnerable groups such as children and young adults. The expansion of the interactive Internet has also led to the proliferation of markets (e.g. illicit drugs) and content (e.g. child pornography) via the darknet.¹ This short historical outline illustrates that deviant behaviour and criminality are embedded in the digital permeation of all (life) areas, which has an impact on many aspects of social life, social institutions, and social structures.

In this chapter, we argue that the basic foundation of cryptomarkets is based on the infrastructure of platform capitalism. Just as platform capitalism is an attempt to remove unpredictability from the analogue market and merge both control and profits with the platform operators, digital drug platforms are an attempt to systematically remove state control over, and to monetise, the trading of illicit goods (in our case: drugs). In this chapter, we will show how monetisation and its socio-political consequences take place in platform capitalism. Although the avoidance of state control has similarities to traditional illegal markets, it is carried out in a different way digitally. Understanding cryptomarkets from the logic of platform capitalism therefore means disclosing a threefold contradiction which underpins the accumulation and transformation of data as a commodity as well as the legal status of certain goods (drug prohibition).

To develop this argument, we proceed in four steps. First, we will examine continuing conditions of capitalism and changes related to the advancement of ICT. Then we will present some key findings from research on cryptomarkets. We will then clarify the concept of platform capitalism with regard to its relevance to our argument. After that, we present the analytical approach of dialectics as a method and explain the constellation of digital drug platforms using three model²

¹The darknet is a part of the Internet that requires encryption technologies to access its hidden content (Tzanetakakis, 2018c). Its content cannot be indexed by regular search engines.

²A model is a conscious abstraction and simplified image of reality. Since reality is complex, a model aims for significance rather than completeness. A model is a part of the constellation. In our analysis, the constellation addresses the capitalist economic system while our model refers to platform capitalism.

contradictions in order to explore cryptomarkets in an ideology-critical³ (Jaeggi, 2009) way: state control and self-regulation; visibility and concealment; and legality and illegality. To conclude, the chapter will discuss some implications of platform capitalism for the phenomenon of cryptomarkets.

From Analogue to Digital Capitalism

Referring to Marx, analogue capitalism can be understood as an ‘immense collection of commodities’ (Marx, 1980, p. 49) in relation to which the ‘custodians’ or ‘guardians’ (Marx, 1980, p. 99) – who possess the commodities – face each other in complex exchange relationships. Drawing on Marx, digital capitalism is, then, an immense collection of data in which users leave traces while moving through digital spaces. This means computer-mediated activities are extracted and analysed with an unprecedented breadth, depth, and scale (Zuboff, 2019). Data from which information can be extracted has become an important resource. But how is this data created? It is delivered by the users of digital infrastructures.

Platforms represent infrastructures for mediation between providers and consumers (vendors and buyers on cryptomarkets) (Helmond, 2015; Srnicek, 2017). Such infrastructures are designed (programmed) to extract data from the social interactions between the user groups (user-generated content and behavioural metadata), analyse them profitably, and use or sell them (Poell et al., 2019; Srnicek, 2017; Zuboff, 2019). Digitisation is also a process of reinterpretation of society into ‘digitisation material’ (Nassehi, 2021, p. 57). This means ‘the representation of the world as data within methodically controlled procedures’ leads to the creation of the ‘intrinsic value of the data’ (Nassehi, 2021, p. 69). The intrinsic value can then be converted into profits. This positioning is the reason for the political and economic power of platforms.

As early as 1858, Karl Marx expressed in his notes the assumption that social knowledge can become a productive force and bring social life under its control (Marx, 1980). Social knowledge is a fluid common good and an open resource for human potential. It enables social progress through technological advancement; however, once it is solidified as a means of production, it transforms into ‘a barrier for further innovation’ (Harvey, 2018a, p. 123). Moreover, it transforms into a tool with which to shape the ‘nature, social relations, production systems, reproduction through daily life and mental conceptions of the world’ (Harvey, 2018b, p. 219) along class lines. According to Harvey, Marx’s topicality for the analysis of digital capitalism lies within his search to prove that the revolutionary changes ‘in the productive forces are ultimately antagonistic to the very social relations that spawned them’ (Harvey, 2018a, p. 125). Social knowledge is transformed into a means to create labour surplus while simultaneously serving to ‘discipline the

³Ideology critique is a method based on Marx’s thought, especially historical materialism. While ideology attempts to justify existing social injustice, it is the task of ideology critique to point out the mismatch between linguistic description and reality and the roots of its emergence (Marx, 1980).

laborer within the labor process' (Harvey, 2018b, p. 221). Consequently, digital platforms become investigators and mediators of social knowledge. The behaviour of their users has become a resource, while the evaluation of the never-ending stream of data has become a new form of digital labour. Social knowledge is thereby transformed into an asset for large-scale industrial monopolies. We will return to this aspect later. Derived from this observation, digital capitalism is also a 'user-generated capitalism' (Daum, 2017, p. 123) in which we supply the digital structures that are then used to exploit and, to a certain extent, control us.

Above all, however, digital capitalism is no longer about the distribution of scarce goods on an ideal-typical free market⁴ but about the availability of access to services, which are financed by compulsory fees or the extraction of raw data on private markets. In the case of digital capitalism, we are not dealing with a completely new form of capitalism but with a radicalisation of its basic features or an 'escalation' of its exploitative effects (Seemann, 2021, p. 288), especially social inequality (Staab, 2019). This is because profits are made from 'objectified knowledge' (Marx, 1980, p. 602), that is, through the appropriation and exploitation of collective social knowledge, which in the ideology of digital capitalism is traded as a freely available good for corporate interests but not for individuals.

Cryptomarkets between Harm Reduction and Efficient Market Structures

In the following, we will discuss two key insights yielded by previous research on cryptomarkets and relevant to our argument. On one hand, it has been suggested that anonymous drug platforms have important implications for harm reduction; on the other hand, it can be argued that cryptomarkets allow for more efficient market structures compared to traditional drug distribution. This initially apparent contradiction, which consists of the fact that efficiency is opposed to drug prohibition while harm reduction is a desirable approach, will be resolved in the course of the analysis.

One strand of research is examining the potential of digital drug platforms to minimise harm induced by drug prohibition (Aldridge et al., 2018; Bancroft, 2017; Barrett et al., 2016; Tzanetakis and von Laufenberg, 2016). The harm reduction approach does not primarily aim to prevent the use of psychoactive substances *per se*, but rather aims to minimise the health consequences of illegal drug use (Lenton and Single, 1998). Specifically, three aspects have been outlined according to which cryptomarkets can reduce drug-related harm. Firstly, the quality and purity of the drugs are displayed more transparently on anonymous drug platforms, since the information provided by vendors is evaluated by customers. This aspect is relevant as some drug-related harms are related to a risk of adulteration and the content of the substance more broadly which may result in unwanted effects or overdose.

⁴Free according to the liberal narrative that 'the key to the understanding of society are the laws of the market' (Polanyi, 2001, p. 19).

Secondly, users reported fewer experiences of physical and psychical violence compared to offline drug acquisition (either from friends, acquaintances, or unknown dealers). This can be explained as being due to drug deliveries usually not taking place face-to-face but via regular postal services. In addition, cryptomarkets offer various in-built conflict resolution practices such as the escrow payment system according to which the platform operator will transfer the funds to the vendors only upon the arrival of the shipment with the customer. Thirdly, rating systems and discussion forums enable the exchange of experiences and information among peers about the qualities of the drugs, effects, dosage recommendations, and poly-consumption. This is of particular importance as the drugs field is very dynamic in response to anti-drug laws, including the emergence of new psychoactive substances or special features. In anonymous digital environments, people who use drugs feel safe to discuss a wide range of drug-related issues. Insights about these three aspects open up new possibilities for harm-reducing initiatives, for example, drug services offering harm reduction information on discussion forums or extended drug-checking services.

A second line of research is dedicated to the structural efficiency of cryptomarkets (Bakken et al., 2018; Duxbury and Haynie, 2018b; Tzanetakis, 2018a). In traditional drug markets, the fear of prosecution, the lack of enforceable contractual agreements, and the lack of information about the content and strength of the psychoactive substance, as well as about the trustworthiness of the transaction partners, are constant sources of uncertainty, which is why these have been described as structurally inefficient (Beckert and Wehinger, 2013). In digital drug platforms, however, actors solve coordination problems in new ways and make them structurally more efficient compared to traditional drug markets. These solutions include, for example, the introduction of informal institutional standardisation for signalling the value of goods (e.g. classification systems), the emergence of competition between cryptomarkets and between vendors, and the development of a rating system that promotes trust-building between the exchange partners (see Moeller, 2023, Chapter 3). This means that cryptomarkets allow for more competition, which is a prerequisite for efficient market structures and ensures profit opportunities, even though they operate under conditions of illegality. However, research on digital drug markets has to our knowledge not made any effort to situate the organisation of the cryptomarkets within platform capitalism.

Platformisation of Markets

In this section, we will elaborate on the effects of the interplay between capitalism and digital technologies to use the concept of platform capitalism for our analysis. Platform capitalism means that it is no longer work and natural resources that determine the accumulation of surplus value but user data (Srnicek, 2017). The concept of platform capitalism describes the structures that make this relationship of exploitation possible. User data is employed to offer personalised advertising and infrastructure services as efficiently as possible. On the surface, platforms are digitised marketplaces where goods can be exchanged, while below

the surface the enormous amount of data collected can be skimmed off using algorithmic data analysis. As Munn (2018, p. 14) points out, algorithms are not merely functional but are ‘embedded with assumptions about the behaviours to be allowed, the users to be acknowledged, the communities to be supported, and the forms of capital to be facilitated’. Algorithms ‘actively shape our agency and activity and thereby become politically potent’ (Munn, 2018, p. 26).

It follows, then, that platform capitalism can be understood as the ‘concentration of power of the Internet’ (Staab, 2019, p. 173f.), which takes place across several levels of control, through which information exchange, access, price, and performance are strictly coordinated and controlled. This creates a new type of market that aims at private market ownership. Accordingly, platforms are structures within proprietary markets, that is, privately owned markets. More precisely, proprietary markets mean that markets are in the possession of the companies that are using them to facilitate the sale of their products. This results in expansive and contractive developments, while the extraction of data is used by platform operators to position themselves as gatekeepers in the controlled segments of the proprietary markets (Srnicek, 2017). Here, expansion refers to platform operators controlling the strategic orientation of a market segment, while contractive developments mean that that market segment is transformed into a closed ecosystem, which in turn transforms the economic system as a whole. For example, digital platforms (e.g. Amazon and AlphaBay) in proprietary markets can set prices and dictate whose products can be offered for sale.

In this context, commodification, understood as the transformation of things into a commodity, consists of not only the exploitation of user data but also the fact that the *public* sector acts as an ‘initial venture capitalist’ (Staab, 2019, p. 267) in almost all areas of platform capitalism (e.g. through subsidies, financing of development, infrastructure expansion). However, the profits remain in the private sector. In other words, digital infrastructure is made available to the *private* sector almost without a charge while the public sector waives almost all of the profits. This commodification is therefore part of the accumulation principle of digital capitalism and is the driving force behind the growth of the platforms. In doing so, it follows the simple formula of converting public wealth into private returns.

The accumulation processes occur cyclically and largely in a mode of perpetual crisis, as illustrated, for example, by the dominant narrative of ‘disruption’. Disruption is an ideological term that originated in the IT sector to present the effects of digital infrastructures as innovations rather than seeing them as extensions of known ways of functioning (Daub, 2020). Disruption means ‘creative destruction’ (Daub, 2020, p. 123) in the sense that markets are shaken up and all actors have to reposition themselves to start the cycle again. This type of crisis resolution is characterised by the concept of ‘exit capitalism’ (Staab, 2019, p. 118) in which private owners first set up companies whose business models are based on free or cheap use of public resources (e.g. infrastructure and basic research financed with state venture capital, collection and analysis of publicly available data, etc.). These companies are then sold at a profit after building up an expectation of future profits in the market ‘at the right moment’. Profit is not achieved

through solid corporate profits based on the creation of one's own services but rather through the appropriation of public advance services and subsequent exit (Staab, 2018).

Cryptomarkets as Dialectical Platform Constellations

In the following, we will analyse the ideological contradictions of platform capitalism in relation to the phenomenon of cryptomarkets by using the analytical method of dialectics. In doing so, we want to bring to the fore the political significance of the abstract structures of capitalism using the model analysis⁵ to allow for a critique of their underlying mechanisms. Dialectics is the juxtaposition of thesis and antithesis in an attempt at critical mutual reflection and mediation of the fundamentally contradictory facts implied in the terms used. Dialectics thereby reflects the nature of capitalism in which 'change is constant, and new developments must be brought into the theoretical fold' (Matthews, 2011, p. 99).

This can be illustrated, for example, in the criminal sanctioning of the production, distribution, and consumption of illicit drugs (the abstract totality of social rules) in its effect on the criminalisation of people who use drugs (concrete empirically observable effects). The observable part of reality is characterised by its fractious nature, and these fractures can be represented in theoretical terms. For example, the fracture between legality and illegality and its consequences for political practice can be represented as contradictions within the conceptual objects. These contradictions in turn can be used to establish a connection between these objects. From this synopsis of several disparate elements (including conceptual contradictions) in the model, visible constellations emerge that can illustrate how the determination of an individual phenomenon goes beyond this specific relationship and thus points to the whole of a problem structure. The concept of the constellation is known from astronomy, whereby it describes the mutual position of the celestial bodies, which is constantly changing due to different orbits (Bonß, 2011, p. 236).

The problem structure can be presented most clearly by the contradictions created in the field. In the field of platform capitalism, these contradictions condense into tensions that lead to synergies with regard to the accumulation of surplus value. Platforms attempt to operationalise their way of working using big data and highly efficient analysis tools (algorithms) in such a way that the exchange relationships that are coordinated via their applications become calculable and predictable. In the analysis of this structure, we are dealing with a double phenomenon from which the field of tension to be explored is built. Firstly, platform operators attempt to completely control the market and its actors, and secondly,

⁵Model analysis is a conscious abstraction based on theoretical social science experiments that reduces randomness and arranges the individual elements of the model in various configurations until they form a figure that can be further analysed. Model analysis aims for graphic and figurative representations.

they attempt to skim profit from this control. Both phenomena are linked to the dynamics of technical architectures (Helmond, 2015) that evolve in line with capitalism's tendencies towards accumulation and monopolisation. This field of tension can be represented as a constellation using three models, as will be shown in the following sections.

Contradiction between State Control and Self-Regulation

The first model contradiction refers to the internal self-regulation (e.g. market organisation) and external control (e.g. state regulation, drug control regime) of digital platforms. Following this, internal self-regulation assumes an ideological function in relation to the outside world. While self-regulation strives to improve efficiency and increase customer loyalty through service orientation, control over the data accumulated during digital interaction (internal control) intensifies at the same time. In addition, platform operators strive to promote a regulatory paradigm that gives them the greatest possible freedom in conducting their business, restricts the provision of services the least, protects them from liability for claims of responsibility for which they do not want to be liable, and presents them in the best light in the interest of the public (Gillespie, 2010). However, the platform operators are largely evading external (state) control.

Cryptomarkets are regulated internally and externally. Externally, there are legal regulations in place criminalising the trade and consumption of psychoactive substances, and thereby leaving the internal market organisation on drug platforms largely to the actors involved. However, a free field is created here, so that the internal digital infrastructures can be designed as desired without state regulations. State control is primarily carried out through international police cooperation in which individual darknet platforms are closed and operators and traders are charged. However, new digital drug platforms open shortly thereafter, attracting dealers and customers from the closed platforms and, within a few weeks and months, reaching the previous sales levels (Décary-Héту and Giommoni, 2017; Ladegaard, 2019). The same pattern was observed for traditional drug markets where law enforcement interventions in cultivation, production, and trafficking come with a balloon effect – when the problem is squeezed into one area, it pops up in another (Buxton, 2006; Dorn et al., 1992; Sandberg and Pedersen, 2009). The disruption of market activity seems to be a less sustainable strategy, as vacant places in the field are occupied by new actors. As discussed in section 'Cryptomarkets Between Harm Reduction and Efficient Market Structures', although the risk of police investigations still exists, more efficient market structures have emerged. This can be seen as a result of the free field.

In addition to setting the terms of business, 'prosumption' (Ritzer, 2019; a mix of production and consumption) is another form of internal control used to skim off profits. This involves user-generated content (e.g. profiles, photos, and posts), with the web design being created in such a way that users are constantly encouraged to engage in new online activities (e.g. using a 'like' button, tweet, hashtag, upload function, content sharing feature) (Stanfill, 2015). Both this and so-called

metadata (who communicates with whom, where, when, for how long) are collected and processed by the platforms.

Applied to digital drug platforms, this means that customers write reviews and vendors create profiles, describe the drugs, and set the conditions of sale; both sets of actors interact with each other on forums. Most importantly of all, these activities generate data. On one hand, the trend towards user-generated content can be understood as a kind of unpaid work while people are consuming digitally; on the other hand, user-generated content can also be interpreted as a sign of the conversion of drug market infrastructures to platform capitalism. Customers are no longer the sole *raison d'être* of the market but become a means for other market purposes (Zuboff, 2019). According to the new logic of accumulation, consumers become suppliers of the raw material of 'behavioural data' (Zuboff, 2019, p. 97). Both a drug cryptomarket and a platform like Google use data about user behaviour to first improve the accuracy of the search results and then to place targeted offers from vendors or advertising for the respective search queries, from which profit is made.

In addition to the philosophical concept of reification, there is also the concept of behavioural surplus (Zuboff, 2019). Accordingly, the focus is no longer on the fact that all human relationships become commodities, but rather this relationship is a means of covert additional exploitation. While reification has made consumers in an exchange similar to the commodities they trade, behavioural surplus turns prosumers – who are themselves suppliers of raw data – into commodities. Prosumers are on one hand unpaid workers generating their own behavioural data and optimising tools for targeted advertising, for which they are the audience and consume in this process, and on other hand, through their movement data, prosumers themselves are the raw material from which a profit is made.

Contradiction Between Visibility and Concealment

The second model contradiction addresses the visibility and concealment of the form and organisation of the field of activity and the actors on digital platforms. Platforms operate in a contradictory field. They provide the necessary unavoidable infrastructure, which is also increasingly unavoidable with regard to the collection of data. The data collection itself takes place below the user interface and is largely concealed in algorithms. Algorithms are data-based and used to increase efficiency (Srnicek, 2017).

The obscurity of this data collection works in the form of an extremely shortened 'gold rush' effect. Uber, Airbnb, and Facebook, as well as cryptomarkets, are engaged in an ideologically cloaked and politically concealed transformation of work and trade into precarious free entrepreneurship (see Craciunescu and South, Chapter 7). This has been demonstrated empirically for the 'sharing economy' (Schor et al., 2020) and for cryptomarkets, where the majority of vendors were found to make moderate sales (Paquet-Clouston et al., 2018; Tzanetakis, 2018b). In this way, they achieve an extreme form of exit capitalism to generate as much profit as possible for a short period of time in a legal grey area by skimming off cumulative effects and then moving on. This development can be illustrated

using the example of the platform Uber, which has worsened the working conditions of taxi drivers through concepts of the ‘sharing economy’ and ‘pay per service’ and thereby turned their workspace into a low-wage sector (Fuchs, 2019). However, while Uber charges a fee for each transaction, they outsource costs as drivers take care of fuel, maintenance, and insurance themselves. The extent to which cryptomarkets are changing the working conditions of vendors still needs to be examined, but the literature has suggested that they primarily cater to the ‘last mile’ of the supply chain – retail drug markets (Demant et al., 2018; Tzanetakis, 2018b).

Exit capitalism comes into play on both legal and illegal digital platforms. For cryptomarkets, the term ‘exit scam’ has become established and describes an equivalent approach to exit capitalism (Tzanetakis, 2015). This describes platform operators who first block the vendor’s and customer’s funds on the platform accounts, making withdrawals impossible. The operator then closes the platform and enriches itself with the funds of the users; a procedure that is not pursued separately by the police, since the underlying trade (drug distribution) is already a criminal offence. The visible regulations help to cover up the concealed ones. An accumulation regime takes place in a legal grey area, within which platform operators can use the hierarchical structure of the platforms against prosumers to accumulate behavioural surplus. Here, the data collection and profitable exploitation of behavioural data can be followed by an exit scam, although this seems to be the exception rather than the rule in cryptomarkets.

The commodification of public goods is the starting point of a camouflage operation, which in due course leads to new areas of public resources being opened up via platforms for the accumulation of behavioural surplus. This also applies to darknet drug markets, albeit in an unintended way. The technical architecture and web design of the illicit drug platforms correspond to those of legally operating platforms. The Facebook platform in particular has been considered a blueprint for emerging platforms in Silicon Valley (Helmond, 2015; Srnicek, 2017). This means that cryptomarkets are oriented towards the infrastructure and web design choices of regular digital platforms, which in turn were initially funded by public funds or research grants.

The closed ecosystems that emerge via proprietary markets are characterised by the networking of immaterial (communicative, emotional, behavioural) economic processes to form a network of visible practices and concealed mechanisms that tend to become independent from the actors. The structures with which this network corresponds act like a cloak to privilege their operators, who tend to be concealed under the more visible actors (e.g. vendors, customers), and tend to allow the operators to exist as beneficiaries even through the symptoms of the crisis.

Contradiction Between Legality and Illegality

The third model contradiction refers to the dichotomy of legality and illegality which describes the state’s historic claim to define, shape, and guarantee legitimacy within the framework of its monopoly on the use of force (Eppler, 2002).

Legitimising one's own violence against that assumed by others is the 'permanent business of politics' (Luhmann, 2002, p. 193). This is where the contradictions of state control and self-regulation, as well as visibility and concealment, meet in the field of platform capitalism.

While the exchange relationships on drug platforms are visible but illegal, and subject to both external control and self-regulation, this is unclear when it comes to the accumulation of value from vast data collection. Although the legitimacy and desirability of cryptomarkets can be controversial (see harm reduction discussion in the section 'Cryptomarkets between Harm Reduction and Efficient Market Structures'), the legal status of trading drugs is clear (attracting criminal sanctions). The process of data extraction, however, remains concealed and recedes into the background of any ideological narrative (e.g. customer service, harm reduction, increased efficiency) and the determination of general terms and conditions (which are enforced internally in the sense of self-regulation but can also be changed at any time).

In addition, the accumulation of behavioural surplus necessarily remains concealed in two respects. Firstly, when researchers assume an overt role in observing a social setting, their presence may influence the behaviour of those being observed and invalidate the findings. Therefore, algorithms are concealed and are constantly changing. They bring different user groups together (matchmaking function) and are essential to fulfil the mediation function of platforms (Srnicek, 2017). The result of this is an algorithmic personalisation, that is, offers tailored to the respective user according to the products previously searched for and purchased.

Secondly, the non-transparent workings of algorithms indicate the transformation of illegality itself into a commodity. In other words, it is the illegal status of drugs that enables their commodification and profitability for cryptomarkets. This implies that with legalisation or decriminalisation of drugs, cryptomarkets would be deprived of their business basis. Here, the illegal status itself becomes a means of value creation. The accumulation effect which derives from the combination of visible practices and hidden methods in turn results in a double phenomenon of cryptomarkets. The illegal status of the drugs traded becomes a commodity, which in turn achieves behavioural added value in the form of control and self-regulation.

Conclusion

In this chapter, we have shown, using a dialectical method, that analysing digital drug platforms in terms of the concept of platform capitalism reveals a field of tension made up of three interlinked model contradictions: (i) arising from the contradiction between state control and self-regulation, platform operators secure the greatest possible leeway in shaping the organisation of the market and turn platform users into suppliers of the raw material of behavioural data; (ii) from the contradiction between visibility and concealment, the practices of the users become visible, while the immense data collection process remains concealed; (iii) from the contradiction between the legal and illegal spheres, an obstacle (the illegal status of drugs) is turned into an asset. After all, digital drug platforms

make a profit not only from the commodity and the collection of data but also based on the status of the commodity, the associated ideology, and the closed ecology of the platform.

With our analysis of the threefold contradictions, we aimed to contribute to a better understanding of how digital drug platforms are part of the socio-economic structures in which they operate, capitalism in general, and platform capitalism in particular. Capitalism itself is based on fundamental contradictions, which constantly create dilemmas for the state and society at large and in turn must be resolved (Matthews, 2011). The resolutions, however, are inherently political as the role of the state is to maintain power and the system itself. In platform capitalism, then, the methods of social control and economic exploitation are multiplied in the form of ever more refined means of measuring and controlling behaviour, which one can no longer evade on the darknet. From this perspective, harm reduction is not only an approach to reducing health-related risks of drug use but – as a method for generating added behavioural value – also a part of the powerful techniques of digital economisation.

The apparent contradiction between the desired harm reduction potential of cryptomarkets and the undesirable suggestion that darknet drug platforms enable more efficient market structures allows for an analogy with the digital platform giants (Google, Amazon, Facebook, Apple, Microsoft, etc.). Both the big tech companies (Gillespie, 2010) and cryptomarkets use their emancipatory potential to drive the accumulation of behavioural surplus. Harm reduction aspects of the drug platforms correspond to the advertising promises of freedom of expression and absolute flexibility (e.g. being accessible everywhere and independent) of the platform giants; both can have an enabling effect, but both are also upstream to subsequently advance data collection.

Moreover, the role of the operators of cryptomarkets has been largely under-examined in previous research on digital drug markets, both in terms of their conceptual significance and the empirical assessment of their relevance. Our analysis points to the special position of platform operators as those who accumulate added value not only through their mediation between different user groups but also through the economic exploitation of behavioural data and the commodification of the illegal status of drugs. This indicates a need for further theoretical and empirical research on the role of platform operators.

Finally, the phenomenon of the cryptomarkets illustrates once again that the prohibitive drug policy regime has failed (Dorn et al., 1992; Buxton, 2006). It has already been demonstrated for traditional drug markets that the global drug problem could not be reduced by interventions either on the supply side or on the demand side (Reuter and Trautmann, 2009). The platformisation of drug markets, driven by technological innovations, indicates a new quality of this failure: profits are not only made from the drug trade itself but also from the online interactions of various user groups and from the illegality of the drugs traded. Both the platform infrastructures that appear insurmountable and the use of anonymising technologies, as well as the dissolution of space-time restrictions, pose significant challenges for policy-makers, drug services and prevention, law enforcers, and researchers alike and raise the question of how to create

sustainable drug policy to regulate digitally mediated deviant behaviour. However, all approaches must keep in mind that digital drug platforms are not separate from offline environments and traditional drug markets, both of which make up the world we live in.