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‘Nice People Doing Shady Things’: Drugs and The Morality of Exchange in the darknet cryptomarkets

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Abstract

Background

An ethnographic analysis of drug-centred cryptomarket community and exchange, this article explores the embedded values around drug distribution and consumption within this setting. Drawing on our interviews with cryptomarket users, we analyze the ways in which users claim the cryptomarket as a space of morality, empathy, trust, reciprocity, knowledge transfer, harm reduction and self-limitation. The anthropological concept of the morality of exchange is central to our theoretical approach.

Methods

Between December 2014 and July 2017, nine interviews were undertaken with users of drug cryptomarkets. These were conducted in person, using Skype video calling, and using the encrypted 'self-erasing' chat app Wickr. The researchers also used overt non-participant observation (NPO) within the cryptomarket forum. This two-pronged approach - interviews and spending time within the community via NPO - enabled a thick description style of ethnographic analysis.

Results

Our research reveals online drug markets less as perfect markets (working to rules of supply and demand) and more as constructive communities of interest that perform and negotiate drug use and supply. We found that participation within these interest communities had practical impact such as changing the type of drug that users consume and the ways in which they participate in street drug supply. Significantly, these values and actions mediate the interface between online action and 'meatspace' (the offline world) and reinforce that the motivations and processes of internet activity are just as 'real' as offline action.

Conclusion

We redefine the illicit drug focused cryptomarket as a place of exchange, mediation and reciprocity. Real-time knowledge transfer with the aim of harm reduction is one example of the impact of cryptomarket interaction. We caution that this is not a space of kinship and affinity: it is not without its scams, hackers and threats. It is, however, much more than a 'drug marketplace' and to understand how users themselves conceptualise this space is fruitful for any understanding of cryptomarkets. Cryptomarket exchange is a form of social action that is not restricted to its economic value for participants.

r/darknetnoobs with FAQs¹: Why a morality of the illicit?

Cryptomarkets are online sites for the exchange of illicit goods and services that make use of the Tor darknet and its qualities of anonymity and hidden hosting (Martin, 2014; Barratt et al. 2014). Cryptomarkets are themselves a hybrid of several technical systems. As well as being hosted within the darknet, payments are made using peer to peer cryptocurrencies, such as bitcoin and Monero. Drugs are delivered through public postal services and private couriers. To users the cryptomarkets appear as a web market selling the wares of many vendors. To this technical infrastructure is added the wider social infrastructure of supporting discussion forums on the darknet and the open clearnet on which vendors, buyers and other parties exchange information, criticise and assess different products and share experiences. There is a tendency to see these places as meeting points for exchanges of goods, intelligence, contacts and personnel: there remains an assumption that trade is depersonalised. We conceive cryptomarkets as reflecting a 'morality of exchange' (Parry and Bloch, 1989) through which users account for their actions and those of others. Cryptomarkets have been particularly subject to myth-making as they intersect with similar claims about the motivations of drug vendors and market administrators as being driven by financial gain (The Economist, 2016). They may appear to many participants as transparent, economically motivated markets that place a premium on quality, service and stealth. However their activities are as motivated by a desire for social relationships and status recognition and community membership that helps to situate users within a moral framework (Barratt et al 2014a)). Non-economic motivations and justifications are crucial to understanding the activities undertaken in cryptomarkets (Munksgaard and Demant, 2016, Ladegaard, 2017a) and we offer a framework for conceptualising them. They are central to how participants approach cryptomarkets and act within them.

Cryptomarkets are both novel and familiar. They form a small proportion of the overall drug market ((Hall and Antonopoulos, 2016, Kruithof et al., 2016). They are mainly focused in a few European countries, Australia and the USA (Winstock et al, 2017). We argue that their significance is much greater in terms of how information is disseminated through them, as much as their role in being a conduit in the illicit supply chain (Martin, 2014). Although they account for a small percentage of the overall drug market they intersect with other parts of the illicit and licit economy in new ways afforded by their technical and social structure (Aldridge and Décary-Héту, 2014; Hall et al., 2017). Their significance is partly in the greater efficiency they bring to some aspects of the middle market and retail market in illicit drugs but also in the new orientations they allow drug users and dealers to develop which is where we situate our paper.

Our approach is to recognise the productive qualities that attract cryptomarket users and through which they reformulate and account for their practices. Cryptomarkets are composed of many different individuals with different motives. Some want a quick profit, others provide harm reduction advice, and still others seek to demonstrate their technical ability or provide social supply for friends (Barratt et al. 2014b; Barratt et al 2016a, b). As in other studies, the generation of a political or personal commitment is important in keeping members participating (Maddox et al., 2016; Munksgaard and Demant, 2016). So there are many different roles, some of which are designed into the cryptomarkets (such as the division of labour between administrators and vendors) and some of which arise within them (such as the checking and verification role of particular discussion forum participants). Motivations that might be thought of as strictly pragmatic (such as for better quality drugs, cheaper or more convenient) have been to the fore. However this may not be true and could be part of the mythology that has sprung up around them. Drugs on the cryptomarkets are not significantly more potent, are not always more convenient to obtain than in the face to face market (Barratt et al, 2014), nor cheaper (van der Gouwe, 2017). They are more predictable and consistent in some aspects and possibly involve less risk. So cryptomarkets are not quite the universal drug

¹ One participant, Elias, explained to us that there is a 'great deal of knowledge [exchange]' surrounding the darknet. He gave one source as the FAQs on Reddit sub-reddit 'r/darknetnoobs' and it is this we reference here.

tuck shops of critics' imaginings. We hypothesise that their attractions lie elsewhere, in validation and confirmation of the autonomy of users and allowing for a demonstrably moral market to emerge.

Our approach uses insights from the anthropology of markets and exchange to frame the activities of cryptomarket users, acknowledging that 'Humans are motivated by social fulfilment, curiosity, and the pleasure of mastery, as well as instrumental purpose, competition, and the accumulation of gains.' (Gudeman, 2001: 1) As such, any economy consists of 'market' facets and 'community' facets. The two might be defined as 'mutually dependent, opposed or interactive' (ibid). Our research hypothesises a novel composition in which 'market' and 'community' form a hybrid.

Markets: Meaningful formulations and cultural relations

An understanding of 'cultural economics' is helpful here. Material action is formed through practices *other* than economic - such as the religious or societal - and cannot be separated from them. Further, there is no 'true' model of economy or market or marketplace that cryptomarkets aspire to or fail to reach. In fact, economy, market and exchange exist as multiple meaningful formulations in their specific - and changing - cultural contexts (Gudeman, 2001). Parry and Bloch argue that we must 'focus on the cultural meanings that surround monetary transactions' and that 'money [here, exchange] must be seen in the cultural matrix that forms it' (1989: 1). We agree that these must be considerations about how exchange occurs, given that it is culturally embedded and cannot be understood in isolation. However, we would expand on this to argue that cryptomarkets not only defy a reductionist approach to the marketplace but also challenge new definitions of markets themselves.

The anthropology of exchange brings us to concepts of reciprocity, obligation and expectation (Malinowski 2014, Mauss 2000 [1925]). Sahlins (1972) found that between relationships and reciprocity, transactions outwith pre-existing relationships could result in 'negative reciprocity' (a transaction to the benefit of one party and detriment of the other) and that community transactions promote balanced reciprocity and that familial transactions can create generalized reciprocity, whereby an individual may act in the interest of another before their own self-interest. One might assume that cryptomarkets are selfish spheres of negative reciprocity. Our findings show they are far more nuanced than that.

Inspired by this general concept, we have here taken our participants' experiences of the cryptomarkets and related them to community. Rather than existing 'outside the community' in a kind of 'unreal' space, cryptomarket transactions in the form of both economic and knowledge exchanges create and maintain social, community relations. This is the sense of cryptomarkets as a social and political space (Maddox et al., 2016; Munksgaard and Demant, 2016) and also as a reciprocal space. This is true in the 'meatspace', the offline world where online and 'real-life' interactions coincide and especially so in cases where cryptomarket users have instigated *positive* reciprocity, for instance in offering harm reduction knowledge and advice. Law enforcement actions form part of the constellation of risk judgements that inform the actions of vendors and buyers which often mean a reluctances to ship across borders. Recent work has noted the regionalisation and localisation of cryptomarkets (Demant et al, 2017). We then have two kinds of boundedness. There is the risk community, defined by the borders of the state, where cryptomarket vendors are incentivised to keep their trade within a geographic area. Then there is the moral community which subsumes it.

What do we mean by a morality of exchange? Firstly, it is imperative to consider any monetary transaction as culturally constructed. On the cryptomarkets, we encounter circulation, exchange and consumption. One might expect that the anonymous platform is perfectly aligned with the impersonal market-place. Money is said to depersonalise social relations and anonymity on the internet arguably does so also - yet anonymity does not inevitably lead to depersonalisation [redacted]. Yet, when we add to this our particular context of illicit transaction, we see in fact a *re-emergence* of cultural relations.

Our aim in this paper is to understand the morality of exchange in cryptomarkets using ethnographic methods. We explore how they construct the morality, comprehensibility and accountability of their activities. Central to that are the thresholds they lay down which which transition them between different moral categories.

Methods

We had to understand the multiple positions people occupy in relation to their cryptomarket activity and how they position and account for their activities by using methods that actively engage with them. To do that we needed to conduct in depth qualitative interviews focused on themes that were co-constructed with respondents. We conducted nine interviews with cryptomarket users, with two follow ups and some ethnographic observation of their activity while they used the cryptomarkets. Interviewees were recruited through word of mouth, Facebook and in one case the interviewee approached one of the authors via Twitter. Interviewee data was supplemented with observation of discussion forums linked to the top 5 cryptomarkets at the time of writing. Participants were well embedded in the cryptomarkets and the darknet community more generally, so are not typical of the many thousands of cryptomarket users who have much briefer and more pragmatic engagement with the cryptomarkets.

Cryptomarket users who participated in the Global Drug Survey give us some idea of their population characteristics (Barratt et al., 2017). Compared to survey respondents as a whole, cryptomarket users were younger (24 years compared to 40 years), largely male (87% male compared to 67%) and more active in the clubbing scene (Winstock et al., 2017). These demographics were reflected to some extent in our interviewees who were majority male, based in the Europe and the USA and mostly in their 20s and early 30s. However two interviewees had much longer engagement with the drug markets, stretching over several decades.

We can infer from the geographical locations vendors commonly shipped to and the kinds of idioms used by participants in cryptomarket forums that we studied that they are mainly native English speaking, and that vendors and customers are primarily based in the US, UK and Australia with some also in other Western European countries. In our study, for example, our participant Friso is Dutch and Rakesh is German. It has been claimed that to undertake ethnographic research in online illicit spaces is essentially problematic. We suggest that this conclusion is born of a definition of the ethnographic method as existing vertically in one space over extended time. This risks rhetorical artificiality. Our position is instead horizontal: following people, transactions, drugs, and ideas as they move through different spaces, nodes and contexts in one time, expanding on the digital trace approach (Décarry-Hétu, and Aldridge, 2015; Barratt et al 2016b). In taking this position, we follow the theory of Marcus (1995) that multi-sited ethnography does not mean simply mean fieldwork in more than one space over extended time. Rather it means leaving behind the bounded field-site and instead following people, commodities, exchanges, metaphors, and stories, as they themselves transform. A key principle of participant observation is using the tools, methods and spaces that those involved in the culture you are studying so. We used virtual private networks, self-destructing chat apps and Tor to get as close as we could possibly be in a setting saturated with the illicit.

The study received ethical approval from the School of Social and Political Sciences. Interviewees were engaged in illegal activity which presents risks to them from participating in the research. As part of the process of protecting interviewees we discussed potential risks with them and how they could be minimised, for example our use of pseudonyms in this paper. Each interview process was tailored to how best ourselves and the interviewee thought they might be conducted. Some used encrypted chat, others were face to face but without being recorded. Chat interviews extended over many hours with one lasting well into the night. Chat was particularly useful for fitting the interviews around the interviewee's own life and allowed them to drop in and out of the interview as suited them. We employed Ethnographic Content Analysis (ECA) to reflexively analysing interview content. It is used to understand the communication of meaning (Altheide, 1987) and ensures maintenance of reflexive and narrative richness.

Meet the players

First Elias, he's a student. He ended up here in the cryptomarkets due to an interest in Bitcoin and Tor and hoped to gain knowledge. His drug use previously hinged on friend networks and his experience of the crypto market changed the type of drug he took.

Next we have Rakesh, initially he thought the cryptomarket was too good to be true. Now, he thinks it gets a 'bad rep' and finds it great for security and drug quality.

Adam, he's a student. He admits he hasn't been as 'safe' on the darknet as he could have been: he taught himself how to use it and didn't care much about anonymity. He lost a small amount of Bitcoin in a scam and realises now that he wants a minimal footprint on the darknet.

Erik found the darknet scary. He felt one needed technical knowledge and experience to navigate it, so asked a friend to 'accompany' him. They used the friend's computer, Erik was 'too scared' to access this on his. Erik soon decided that 'if you like taking drugs the darknet is just f***ing heaven.'

Rufus is very pragmatic about the cryptomarket. He treats it exactly the same as a street deal: he 'restricts' himself to the same drugs he buys on the street, plans what he needs in advance and keeps it for a long time. He doesn't binge or rush a purchase. He sees his cryptomarket experience as 'intelligence gathering' and an exercise in caution.

Teemu is a chemistry student and, as well as a drug marketplace, views the darknet as a platform for his own knowledge. It is a place where he can provide helpful advice and support, particularly around harm reduction.

Friso is idealistic and well-versed in drug taking. A former street dealer, Friso says he became 'too successful' which drew him into a violent world and a prison sentence: 'drugs were not just drugs to me, they were everything. It was always more, I wasn't just addicted, I want to *know* everything and try everything'. Friso indexes all the drug-related information he can find and collates technical information about the darknet. He says he wants his experiences to 'mean something' and uses the darknet as a platform for this.

Then there is Peter. He 'was always a nerd' and that's what brought him to the darknet. He even has a degree that he funded by 'reselling good deals' in the cryptomarket.

Chidi tells us that he sees the darknet as a place of self-expression, where he can share ideas, find freedom and non-conformity.

Irreducibility of the marketplace

Cryptomarkets are communities composed of multiple layers. One way of conceptualising this would have been according to the degree that users are 'inside' the cryptomarkets. Users certainly occupied different positions in it. However we wanted to understand the dynamic driving them to embed themselves in different ways. We found it according to the kind of reciprocity that they enact within the cryptomarkets or experience while using them. For example, one can be 'outside the community' and embedded within the cryptomarkets if one is the victim or perpetrator of a scam. We also acknowledge how users refer to 'meatspace'. Again this could be seen as simply the offline world of face to face drug exchanges. However crucially meatspace signifies that offline market as one which is more and more articulated and mediated through the cryptomarkets.

Our participant, Chidi, was keen to assert that the cryptomarkets were not just a criminogenic or exchange space: 'One misconception about the darknet is that it's all about illicit activity. I tend to see it as an opportunity to express ideas, ideals, and non-conformity. I use the darknet because I like hearing sources of information that I might not normally hear.' Participants were keen not to have them simply seen as solely an economic mechanism, however sophisticated, in the sense of an Uber or Amazon. Our respondent Peter agrees with Chidi: 'It is not as much like eBay as people claim. The volatility means that there's not too much need for infrastructure. There is an assumption that the darknet is much more sophisticated than it is.'

Because of this volatility and secretiveness there is a wider support system. They, link closely with other systems that the participants use such as social media or Reddit - where, for example, Friso leaves vendor reviews - so the cryptomarket communities exist beyond the site of the cryptomarkets themselves.

When sharing is not a form of exchange: reciprocity, risk and existing relations

In its most basic terms, reciprocity can be either immediate exchange (direct barter) or delayed exchange (where it is eventually expected of the giver, such as a birthday gift). Drug transactions on the cryptomarkets are illuminating because they oftentimes involve both of these reciprocal processes in one single transaction. Immediate exchange occurs as the vendor and buyer swap

substances for Bitcoin or Monero. Delayed exchange comes into play in various ways. For one of our participants, Elias, he stops purchasing on the street in favour of the cryptomarket. He offers his old street dealer a 'good deal' on some pills. When Elias uses his friend's address for delivery, he states 'I would split it with them effectively. So they would get some just for the risk of having it delivered to their address whereas I was in a pretty much zero risk environment so I figured it wouldn't be fair.' Fairness and sense of self are integral to Elias and his behaviour within the drug cryptomarket.

Elias passes useful information to his previous street dealers and then makes money *from* them by using his technical knowledge to cash out their Bitcoins for them. This isn't solely about existing relations and sharing illicit substances socially: this rebalancing is an essential part of reciprocity. In both cases of delayed exchange, the buyer is engaging with a sense of their own moral balancing.

This is in two forms: There are delayed exchanges with offline dealers and users which are mediated through the cryptomarket infrastructure as in this example with the dealer. And then there are exchanges which are entirely online which involve knowledge, drugs and bitcoin. Here, we note, sharing is opportunity and not obligation. It is also substance dependent, as Adam explained to us: 'Sharing only if it's a sharing drug. Cannabis, yes. Pills, no.' This social supply involves drugs being distributed and taken in with a sense of commensality within friendship networks (Coomber et al, 2015).

What is interesting here is that knowledge is being treated in the same way. This might be technical knowledge of the systems involved and how to manage them: Rufus told us that he appreciates cryptomarkets for 'intelligence gathering and caution to avoid getting scammed'. Participants produced and shared market knowledge about how to interpret the various claims made by vendors on the market, knowledge about effective and safe drug use, and about how to engage with the community. Two of our participants - Elias and Teemu - have academic backgrounds in pharmacology and chemistry respectively. They both claim that sharing this knowledge with drug users on the cryptomarket is important to them in order to provide support. As Teemu puts it: 'I conduct reagent tests on [substance] purity and post the results online.' Teemu adds that his drug use is 'in a self-exploratory manner' and he advises other cryptomarket members to always have a partner when using.

'Scary Money': The middleman, his sense of self and the threshold

Cryptomarkets have the potential to change buying and taking habits of the illicit drug industry. More than this, they can change the perception and potential of selfhood, as mentioned for Elias. Elias ventured online to avoid the middleman of the street deal. As his knowledge and experience grew, he found himself in the role he once actively avoided. He had a connection with the street dealers to whom he had felt himself morally indebted for ceasing to be a customer. Their connection transformed from obligation to opportunity when Elias realized that he possessed knowledge they did not - how to turn cash into Bitcoin and back - and could undertake this on their behalf. He could use his technical knowledge of the cryptomarket to organize the dealers' purchases for them. This resulted in his gaining a profit of between 10% and 12% per order. With this money, Elias funded his university tuition and living costs. To invest positively in his future with money recouped from the illicit is a marker of the dichotomous nature of all of this.

Elias reiterates this: 'I don't need the money any more so I've just backed off from doing it because I don't want to take the risk if I don't need to.' In this respect - In one supposed straightforward direct barter of selling and buying - Elias has done a number of things. He has transformed himself: suddenly *he* is the middleman that he went online to avoid. He explains this away by pointing out the virtual-reality of his role, of the drugs he says 'I never actually saw them, I never touched them, I was never involved with any part of the physical connection with them'. He has created an instance of meatspace where the cyber and the real meet and co-exist. Not only does it connect him to others - his existing friends, online connections, real-life dealers - it also redefines his selfhood in relation to drug buying and dealing. It dawns on Elias that he can potentially become a dealer:

I've got this opportunity, I can provide you with this for incredibly low price, I'll take a little bit off the top because you know I'm providing a service and there's risk involved at my end as well. But I can

organise all the stuff, you still get an incredibly good deal. So lets say it was like 80 pence a pill or something, or like £1 a gram for weed, erm then they would pay maybe £2, and I would get the extra pound. So i would be making about, I mean I think I made about £3000 in a year doing that, so that's not a lot but I was never dealing in particularly high volume. If i decided to expand that, and I networked with more people then I could be making 20, 30 grand, easily. I backed off from that, because that's scary money ... But then there's the whole other fear factor of do I want to be a drug dealer? So eventually I just went off it. Reconsidered it a couple of times when I had really bad financial situation but ultimately never went for it.

How might we define 'scary money'? What at point does the situation change, when is the opportunity not worth the risk? What we identify in Elias' account is the threshold that the actor will not cross. That signals the importance of thresholds to those involved. Participants who were tempted to leverage their digital knowledge to engage in larger scale drug deals stepped back from 'scary money'. That threshold is not an empty boundary: here, opportunity and obligation constantly reinforce and challenge each other. This starts to answer a key problem in drug market studies. We know a bit about why dealers start being involved in dealing, and a little about where they stop, which is called 'desistance'. What we have little knowledge of is the limits they place on their own enterprises and participation in criminal markets and what defines those limits. Here, our research reveals the context of self-imposed limits and the reasoning behind drawing that line. This perspective gives us a handle on understanding how illicit market actors place limits on their action - limits that are *not* defined by the structure of economic opportunity but are defined by these other factors.

Making and breaking trust

The infrastructure of most cryptomarkets have in-built verification and validation methods to encourage trustworthiness of the sites. Others rely on community validation over time. Within this process, we encounter a level of trust. Vendors all go through an escrow process *except* for the most trustworthy of vendors. How does such a circular process work?

[That] is where Grams² comes in. f you search that you have a whole collation of all the reviews and everything, it's like the Metacritic for drugs. And you can basically [tabulate] on that score because it doesn't matter how much someone is willing to pay to make sure their name looks good if a thousand other people say 'nah mate you're shite'. That's going to be the overwhelming opinion.

(Elias)

It is when fake reviews appear on sites like Grams or Reddit that we once again encounter a certain morality and show of solidarity. If making too much money and becoming a dealer is overwhelming, what is causes this fear factor within the cryptomarket? And where does morality come into this? Elias refers to what he calls a Public Service Announcement.

[Users] don't want everyone else getting screwed over, [users] don't want vendors getting busted and things based off someone else being an idiot, so it improves their standard and the administrators obviously have an interest in that as well because if someone gets arrested they're not going to be buying and selling anymore.

Scamming by vendors and administrators was not a typical interaction but it was an expected risk: Our participant Erik was scammed and put it down to taking a chance on a vendor with a low reputation. It should be added that Erik also felt the same sense of loss when his twenty pounds' worth of Bitcoin was seized from a marketplace in an FBI crackdown. The community reacts quickly when it suspects a scam is happening. One major site, Evolution, was the target of an exit scam in 2015 where the market administrators disappeared with the large amount of bitcoin being held in the market. Users then collaborated to promote technologies and practices that were more resilient to this kind of scam such as multi signature escrow and spreading one's purchases and sales across multiple markets.

² Grams is a now closed dark net site which indexed crypto market vendors

Crypto-community: 'They have a vested interest in you not dying'

Often the cryptomarket users' actions towards each other come from one of two places. First, an assumption that they are doing the same thing at the same time and with the same motivations and experience. Second, in reaction to the negativity from 'others' and stereotyping of drug users, they 'band together' into a community in which members hold in their minds a mental image of their affinity. This 'banding together' can take two forms: a sense of shared interest, experience and motivation - that we consider a community of interest - and a more radical, pro-active sense of 'being on a mission' - that we consider a tribe. Tribes tend to originally stem from communities, whereby members who are, for instance, activists choose a more targeted path. An example of this could be a tribe of hackers stemming from a community of coders.

Cryptomarket users are a community of interest rather than a tribe. However, to call them a 'community' is importantly *not* to reduce them and their activities to shared interest and reciprocal care. Their interest in each other and subsequent care for each other's wellbeing is solely restricted to this specific shared passion and does not go beyond it. For every user who claims 'heaven must be missing an angel ...that's how it feels to help people out on the darkweb and it also helps keep the chain going' (Friso), there is another who ascertains 'If everyone is an adult and they want some f***ed up substance than that is on them. You want oxy? *That's on you.*' (Chidi, emphasis ours). In some cases, users seek a sense of 'care' that they do not find on the street market: 'My amphetamine vendor (he or she no idea) is a very friendly one. Always there if you have a question, or need advice. It's trust. Even says 'take care or take it easy buddy' That didn't happen when I had to buy washing powder on the streets' (Friso): the vested interest in each other is very often self-serving.

This is a common distinction that users make which is that the motives of cryptomarket users are different from those of the offline drug market and that cryptomarkets produce a different context of behaviour.

'People on the darknet are nicer, like I think it's generally if someone offers you a line of cocaine in a toilet they are probably not a trustworthy person to start off with. So there's a certain selection bias there. If you're taking drugs with someone in a dirty nightclub toilet then they are probably not the sort of person you want to be taking drugs with for a start whereas if you are taking drugs with someone that you want to be taking drugs with then there's that sense of community with them, whereas [sounds like 'the people are all afraid to do that'] are already outside of that, like feeling of community, does that make sense? Yeah, so this is a person who you know them and you have that interaction with them and they have a vested interest in you not dying of an overdose or PMA or whatever.' (Elias)

This describes a structure of obligation which supports peer harm reduction (Friedman et al., 2007). It describes a structure of knowledge creation and diffusion about ways to minimise the risks associated with drug use. This can involve adapting what might be called professionalised knowledge about, for example, overdose risk or the spread of blood-borne viruses into everyday drug using practice. It also operates as a site for the production of knowledge about drug safety. This is particularly important with new psychoactive substances or new combinations of drugs where there may be little knowledge among the professional community. Further, these knowledge practices can be sites that resist medicalised or other forms of harm reduction knowledge and use practical counter-knowledges that are generated and shared within the cryptomarket communities to generate a narrative of lower risk drug use.

Here we are introduced to the concept of community on the cryptomarkets. How might this 'vested interest' be explained?

'So there is a sense of everyone bands together and tries to help each other out. There's also a general sense of, if we are all going to be clumped together in the eyes of the general public then we need to present a united front. Like we want to avoid people dying or going crazy as much as we can because it makes everyone look bad, so there's an aspect of that but there's also just the general community aspect.' (Elias)

The community is an entity which one acts towards and an infrastructure for different kinds of action (sharing, exchange, support) to take place. Exchange has the power to transform the nature of social relationships.

We have established that there is an othering at play here. Users of the cryptomarkets justify, identify and make sense of their illicit activity by defining illicit activity that they deem more extreme, more dark. With pretended assassination markets, weapon sales, and at least one now closed market organised around sharing images of child abuse forming part of the darknet, such activity has been described to us as 'that's the darker side of it all' (Rakesh, a university graduate). Illicit drug cryptomarkets are therefore presented relatively as not dark, less dark, or shady. If these dark pursuits are markers of the immoral and the illicit, the drug cryptomarket is often presented as a place of knowledge and a quest for self-enlightenment. The authors' own work was entangled in this. Our participant Friso showed an interest in the wider research of our second author, and set out to access a PDF version of an article. Finding that it would take an institutional subscription or a payment of 40€ to access the work, he explained:

OH MY GOD i am so sorry by the way, but up to 40 euro's for a .pdf with the research full text? I am afraid I pirated them all from you, but for a good cause. In the name of knowledge?

Here, Friso is talking about accessing an academic publication about the darknet not about darknet activity *per se*. Friso looks for understanding by arguing 'the name of knowledge'. Other participants situate their cryptomarket use in similar ways, for instance Peter did his degree thesis on criminal innovation on the darknet. Yet the claim to good cause, this pursuit of knowledge, is a theme that runs through our participants' claims surrounding motivation.

Discussion

The cryptomarkets are no detached marketplaces. We found that transactional processes on the cryptomarkets can also be transformative: they have turned the anonymous into a caring, supportive place of morality (Maddox et al., 2016). Barratt et. al point out that, 'It is encouraging that anonymous digital spaces can provide a place of refuge for people who use drugs to access like-minded others.' (2016b: 56).

Informal social regulation is part of the working of cryptomarkets (Morselli et al, 2017). Vendors use 'freebies' to attract buyers and good reviews (Ladegaard, 2017b). We have expanded on that to understand how cryptomarkets' quality as open market exchanges sometimes masks how users embed qualities of reciprocity in them. The people we interviewed re-task and combine technologies such as the darknet and bitcoin along with online and offline communities to move along a spectrum of reciprocity. Returning to our starting point, cryptomarket users' accounts of their motivations and their actions as moral and comprehensible are closely bound up. It was often the case that cryptomarket users were at pains to emphasise the difference between the cryptomarkets and the offline markets. Users in the cryptomarkets were said to be 'nicer', more accountable and generally the sort of people one would want to hang out with. This distinction was important to users but is not one that should be taken as definitive. Users in offline markets are equally motivated by moral considerations but the technical and social possibilities of the cryptomarkets allowed these kinds of behaviour to be noted, shared and valued. So one of the 'affordances' of the cryptomarkets is their ability to form moral communities and recognise and embed that.

To reiterate, participants are highly experienced cryptomarket users and are not representative of many users who have briefer engagements with the cryptomarkets and will rely much more on the formal trust and reputation systems that they have in place. Like hackers, our interviewees get satisfaction from participating in terms they define and mastering several different technologies to do so (Stenmetz, 2015) and their position in relation to 'the underworld'. Being at the heart of the underworld can give one a certain cachet but clearly draws the attention of law enforcement and rivals. It can be better to operate a few layers away from it, or better in an environment where there is no strict centre. Position and moral distancing are crucial activities. This involves practical actions such as covering one's traces and also moral acts that involve situating one's actions within a moral frame from dark to light. There is always something darker. Putting this in context it does not mean that all or most users are 'nice'. It does mean that users and vendors thought the kinds of interactions

it promoted were better. In some cases this is based on a myth about the offline market as being violent and chaotic, which it mostly is not.

Likewise, building trust was reliant on joining or creating a culturally coherent community. Trust signals are performances which are carefully selected by both sellers and buyers (Holt et al., 2016). That helps them cope with the significant information asymmetry that exists in cryptomarkets. There is plenty of information on vendors such as evaluation scores and reviews but little verification. That extra verification is practiced outwith the market structure itself and in associated forums and in meatspace relationships. There is a layered onion of relationships which develop to ensure transactions are reliable. The cryptomarket infrastructure is one layer. Users develop other layers over time, such as relationships with vendors who are mediated through the cryptomarket but are not part of the public listings, relationships which are conducted through other systems such as email or encrypted messaging, or that move into meatspace. It is notable that as the relationships and trust increase, the security of the underlying system decreases somewhat. Conducting drug deals through email is not very secure and face to face interactions open both parties to potential stings. So greater trust can motivate users to move away from the cryptomarket infrastructure over time.

Threats to economic exchange are different from threats to moral exchange. A successful drug purchase can be detailed by scams, failure of the market infrastructure, and interception of drugs sent through the post. A moral exchange can be threatened by it losing its reciprocal character. That can happen when a threshold is crossed. The concept of thresholds was developed in response to how cryptomarket users navigate the opportunities and risks presented to them. The ability to make use of their knowledge and connections to pull off large scale drug trades was a temptation to those who felt their digital skills would allow them to maximise returns and minimise risks. In the interviewee's accounts there was a combination of push and pull factors. The push was the immediate need - to deal with a financial crisis or uncertainty - the pull the satisfaction in being able to demonstrate one's status as a darknet entrepreneur. The concept of threshold has also been identified in research with drug dealers in offline markets sometimes choose not to fully enforce debts or seek negotiated outcomes with their debtors in order to maintain trust and allow the debtor to continue operating the market (Moeller and Sandberg, 2017b). Recognition of the limits of direct exchange within an overall sense of the market as being potentially damaged by violence or pedantic debt enforcement.

Our findings call on us to rethink how significant non commercial supply is even in a vaunted fully capitalist market. A key point in the illicit drug distribution network is the role of social supply and minimal commercial distribution (Coomber et al, 2015). This is where friendship or acquaintance groups arrange distribution among themselves for low or no profit. That kind of distribution is working through the cryptomarkets. Knowledge transfer is part of the cryptomarket. This form of sharing becomes transformative in this context: much as Widlok (2016) states, here sharing as 'enabling others to access what is valued, provides a conceptual and practical alternative to market exchange ...The social practice of sharing is therefore a fundamental and independent part of the human repertoire of making a living'. So when the cryptomarket buyer shares his or her wares with his pre-existing friends, it is not a gift *per se*. It is part risk-management and part deal. Sharing has a role in the construction and maintenance of social order. Crucially, Widlok asserts, 'Instead of the obligations to give, to receive, and to return, the ethnography of sharing suggests a pattern of opportunities to ask, to respond, and to renounce' (ibid.: 4). 'Sharing has proven to be an effective way of opening up opportunities for humans who seek access to what they need' (ibid.: xviii).

Cryptomarkets not only defy a reductionist definition of exchange, they also challenge the very definition of a market. There are many assumptions about what the street or offline market is which are reproduced by users and commentators. For example, that in person interaction is more trustworthy, more real, more emotionally binding or more permanent. The offline market does not generate these qualities by default. Where they do exist it takes effort by all involved to create through e.g. repeat interactions, mutual risk taking, shared liability etc - in face on of the ways trust is maintained is through shared 'guilt/criminal liability - so for example the knowledge that I have done something illegal, which you also have, is used to create trust because we both share a secret about our criminal liability. You could call this balanced reciprocity. The cryptomarkets can involve relationships that are emotionally meaningful, obligatory and powerful for those involved. What is new is that cryptomarkets reduce the role of shared criminal liability in establishing balanced or positive reciprocity.

We argue that some of these elements are what accounts for the resilience of illicit markets in general and cryptomarkets in particular. Extensive research on illicit markets on and offline notes their resistance to intervention and the fast recovery of cryptomarkets in the face of law enforcement interventions (Van Buskirk et al 2017; Décary-Hétu and Giommoni, 2017; Soska and Christin, 2015). We could point out that closure of cryptomarkets may have the perverse effect of damaging the positive reciprocity of the community while leaving the negative reciprocity largely untouched. Certainly, many respondents in this and other studies have lamented the fall of the original Silk Road and that the newer cryptomarkets are less concerned to root out scammers (Munksgaard and Demant, 2016).

Parry and Bloch (1989) explain that it is the ‘unsettled relationship’ between market and non-market exchange that attracts most attention. Gift economies are said, by some, to build communities. The market economy, conversely, is said to serve as a kind of ‘acid’ on those relationships. We argue that the cryptomarkets inhabit and construct a new space of exchange. Constitutive of the behaviours associated with gift exchange, cryptomarket transactions are imbued with similar relational motivations, obligations and interactions. The transaction’s concurrent shaping by buying and selling (direct barter) crucially does *not* result in the application of acid to those interactions: the relationship is not so much unsettled as it is constitutive of an innovative hybrid form of exchange. In this respect, we argue, cryptomarket transactions create and embody fluid boundaries in the sphere of exchange. In the neo-classical sense, market exchange is about equilibrium. We view action in the cryptomarkets in a different sense which involves rebalancing. Reciprocity is about balance, a moral sense of balancing pre-existing relationships, the justificatory rebalance of ‘this is dark but other activities are *dark dark*’ and also the more abstract sense of rebalancing perceptions of the darknet: the concept of ‘nice people doing shady things’ epitomizes this.

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