Internet Markets: Exchange Relations On Craigslist, Ebay, And Silk Road

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Abstract
Cyberlibertarianism is a dominant ideology in the technology industry. Internet markets represent cyberlibertarianism ideals put into practice. According to cyberlibertarianism, internet markets should be self-regulating, but problems of fraud nevertheless emerge. On internet markets, fraud occurs through the manipulation of platform protocols that are designed to replace regulations. Actors take various steps to mitigate concerns of fraud and control the commercial process. These steps rely on website infrastructure, platform culture, and state, commercial, and domestic institutions — factors that are supposed to be external to electronic commerce. Users develop social customs that rely on website infrastructure, platform culture, and state institutions. Vendors perform practices that are also connected to website infrastructure, platform culture, and state institutions, but in ways that reflect their goal of selling goods. State, commercial, and domestic institutions figure centrally in the circulation of market objects, which often enter digital exchange in places where institutional control falls short. Far from being a story of self-regulation, exchange on internet markets is a story of regulatory endeavors, as individual and institutional actors aim (and sometimes fail) to control the process of electronic commerce. This tells us that cyberlibertarianism overlooks the role of regulations and institutions on the internet. As venues that embody cyberlibertarian principles, internet markets are among the most productive case studies of the digital ideology. By meeting the radical conditions demanded by cyberlibertarianism, internet markets are experiments in the digital ideology that decisively disprove its hypotheses. If the predictions of cyberlibertarianism cannot be realized in the free digital market, then they likely cannot be realized anywhere. Moving forward, they may serve as a counterpoint to the claim that an internet equilibrium is just one regulatory removal away.

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INTERNET MARKETS:
EXCHANGE RELATIONS ON CRAIGSLIST, EBAY, AND SILK ROAD

Jonathan Pace

A DISSERTATION

in
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Presented to the Faculties of the University of Pennsylvania

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ABSTRACT

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Cyberlibertarianism is a dominant ideology in the technology industry. Internet markets represent cyberlibertarianism ideals put into practice. According to cyberlibertarianism, internet markets should be self-regulating, but problems of fraud nevertheless emerge. On internet markets, fraud occurs through the manipulation of platform protocols that are designed to replace regulations. Actors take various steps to mitigate concerns of fraud and control the commercial process. These steps rely on website infrastructure, platform culture, and state, commercial, and domestic institutions — factors that are supposed to be external to electronic commerce. Users develop social customs that rely on website infrastructure, platform culture, and state institutions. Vendors perform practices that are also connected to website infrastructure, platform culture, and state institutions, but in ways that reflect their goal of selling goods. State, commercial, and domestic institutions figure centrally in the circulation of market objects, which often enter digital exchange in places where institutional control falls short. Far from being a story of self-regulation, exchange on internet markets is a story of regulatory endeavors, as individual and institutional actors aim (and sometimes fail) to control the process of electronic commerce. This tells us that cyberlibertarianism overlooks the role of regulations and institutions on the internet. As venues that embody cyberlibertarian principles, internet
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INTRODUCTION
CYBERLIBERTARIANISM AS DIGITAL IDEOLOGY

Overture: Why Exchange?

Internet markets are major centers of online activity. Exchange platforms, such as Craigslist, eBay, and Silk Road are exceptionally popular, with consistently high levels of internet traffic,\(^1\) exceptionally innovative, with roots in the early days of their respective webs,\(^2\) and exceptionally profitable, with hundreds of millions of dollars passing through these powerhouses of the digital economy each year.\(^3\) One in five Americans sells something on the internet every year, making these exceptional cases also quite ordinary.\(^4\) Exchange platforms are new media with traces of the old, replicating and transforming the local market, the antique market, and the black market. As electronic spheres of commercial and interpersonal exchange, they are host to a vibrant interplay of economic, social, and technological dynamics.

\(^2\) See the discussion of Craigslist, eBay, and Silk Road histories later in this introduction.
Despite their popularity and novelty, internet markets are neglected objects of inquiry in digital media studies. Contemporary literature on electronic commerce largely foregrounds the trading of informational objects rather than material ones. This is the case in studies of platforms and studies of networks. In studies of platforms, the reproducibility of information becomes a point of departure for digital gift economies and their concomitant systems of reciprocity and status.5 Trade is here understood in broad terms: every online contribution is a discrete economic transaction, leading some to jettison the very distinction between the social and the economic within digital culture.6


advantage, to be leveraged through financial instruments or logistical apparatuses.\textsuperscript{7} Trade is again understood in broad terms: every piece of information becomes a commodity, leading some to jettison the distinction between informational and material regulation.\textsuperscript{8} Even studies of internet retailers and craft sites, such as Amazon and Etsy, display a preference for informational systems of status and recommendation over material systems of goods and payment.\textsuperscript{9} Research is still catching up with Facebook Marketplace, an exchange platform that was launched in October 2016 as an internal part of the social media giant.\textsuperscript{10}

The neglect of exchange is symptomatic of broader trends within digital media studies. In the context of digital media, political economy tends to focus on production


\textsuperscript{8} Hassan Masum an Mark Tovey, eds. \textit{The Reputation Society}.


and ownership, and cultural studies tends to focus on consumption and signification.\textsuperscript{11} Hence, many political-economic studies of social media sites center on the commercial valorization of user data.\textsuperscript{12} Meanwhile, many cultural studies of these same sites focus on the signification of identity and the transformation of language.\textsuperscript{13} For instance, digital studies of eBay situate the platform within political-economic configurations of new media labor\textsuperscript{14} and cultural formations of online community\textsuperscript{15}. In this respect, the

\textsuperscript{11} This is not to reduce political economy or cultural studies to production and consumption, respectively, but to highlight a general tendency in order to understand the lacuna of exchange. To be sure, even when political economy and cultural studies fit these tendencies, they incorporate a variety of additional factors into analysis.


methodological dichotomy reflects the critical-theoretical division of the social totality into an economic base and a cultural superstructure. Exchange occupies an awkward position within this theoretical edifice: the circulation of commodities exceeds the hidden abode of production, proper to political economy, but precedes the conspicuous realm of consumption, proper to cultural studies.

Given the neglect of internet markets in digital media studies, this research project examines three exchange platforms — Craigslist, eBay, and Silk Road — in order to understand exchange on internet markets. My argument runs as follows.

Cyberlibertarianism is a dominant ideology in the technology industry (introduction). Internet markets represent cyberlibertarianism ideals put into practice. According to cyberlibertarianism, internet markets should be self-regulating, but problems of fraud nevertheless emerge. On internet markets, fraud occurs through the manipulation of platform protocols. This matters, because protocols are supposed to replace regulations on internet markets (chapter 1). Actors take various steps to mitigate concerns of fraud and control the commercial process. These steps rely on website infrastructure, platform

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culture, and state, commercial, and domestic institutions. This matters, because internet markets are supposed to be self-contained, yet digital exchange implicates factors that are external to electronic commerce, especially the state institutions that cyberlibertarianism claims to obviate. For instance, users develop social customs that rely on website infrastructure, platform culture, and state institutions (chapter 2). Vendors perform practices that are also connected to website infrastructure, platform culture, and state institutions, but in ways that reflect their goal of selling goods (chapter 3). State, commercial, and domestic institutions figure centrally in the circulation of market objects, which often enter digital exchange in places where institutional control falls short (chapter 4). Far from being a story of self-regulation, exchange on internet markets is a story of regulatory endeavors, as users, vendors, and institutions aim (and sometimes fail) to control the process of electronic commerce. This tells us that cyberlibertarianism overlooks the role of regulations and institutions on the internet. In turn, this suggests that actors outside of the technology industry should insist on the reality of regulations and institutions in order to create a fair and cooperative internet (conclusion).

As venues that embody cyberlibertarian principles, internet markets are among the most productive case studies of the digital ideology. By meeting the radical conditions demanded by cyberlibertarianism, internet markets are experiments in the digital ideology that decisively disprove its hypotheses. If the predictions of cyberlibertarianism cannot be realized in the free digital market, then they likely cannot be realized anywhere. Internet markets are valuable objects of research, because they uniquely actualize the tenets of cyberlibertarianism and, in so doing, demonstrate
significant flaws in the dominant paradigm. Moving forward, they may serve as a counterpoint to the claim that an internet equilibrium is just one regulatory removal away.

Cyberlibertarianism

Cyberlibertarianism is a particular way of thinking about digital technology and a dominant ideology in Silicon Valley. It is important to understand cyberlibertarianism, because the paradigm informs the principles of industry leaders, the practices of major firms, and the sensibilities of high-technology workers. This has consequences beyond the Valley, insofar as these figures and firms are the ones who invent and design popular digital technologies, influence governmental policies related to the internet, and play an outsized role in public debates surrounding technology and society. Further, as I argue in the body of this project, cyberlibertarianism shares key assumptions with other paradigms for understanding digital media: electronic reputation studies, free labor theory, accounts of the digital economy and digital labor, and internet commodity studies. This means that even scholars can operate under the assumptions of cyberlibertarianism.

Conceptually, cyberlibertarianism combines the market theory of libertarianism with the system theory of cybernetics. For libertarianism and cybernetics, economic and technological systems tend toward equilibrium through the independent decisions of their constituent actors. Both discourses construe regulation as unnecessary, even counterproductive. The key thinkers of libertarianism and cybernetics — Friedrich Hayek and Norbert Weiner — follow remarkably similar logic in their respective arguments.¹⁷

For Hayek, regulation undermines the spontaneous order of the economic market. For Weiner, regulation hinders the self-regulating capacity of the technological system. Both discourses cast institutional intervention as impractical, even hazardous. For Hayek, the state should never attempt to manage economic markets; for Weiner, the state should never attempt to police technological systems. Both discourses position cooperation as the foundation of social life, upon which economic markets and technological systems are built. Libertarianism and cybernetics have been subject to widespread criticism in the economic and social sciences throughout the twentieth century.\(^{18}\) As it turns out, regulations can be productive, institutions can be equitable, and conflict can be inevitable in economic and technological systems. Yet libertarianism and cybernetics make a stealth comeback in the way that Silicon Valley understands the technologies that it produces.

According to cyberlibertarianism, the internet is a self-regulating system that is incompatible with external regulations. Cyberlibertarianism can operate on the level of internet firms (don't regulate the technology industry), internet networks (don't regulate cable traffic), and internet platforms (don't regulate website content). In this line of thought, external regulations, including state regulations, are not only unnecessary but actually detrimental to the internet as a self-contained system. At the heart of cyberlibertarianism is the vision of an internet in perpetual equilibrium. As in libertarianism, every attempt to manipulate the system ultimately backfires: the regulation of internet activity ends up undermining the vitality of online exchange. As in

cybernetics, every flaw in the system is ultimately incorporated into its superlative functioning: the system ends up neutralizing and integrating errors, dysfunctions, and interruptions. I follow several others in referring to this conceptual framework as cyberlibertarianism.19 To be sure, not everyone in Silicon Valley is a cyberlibertarian, and not every cyberlibertarian believes in the paradigm whole. However, cyberlibertarianism is an influential way of thinking about technology in the place where many technologies are created. In order to demonstrate the existence of cyberlibertarianism as a dominant ideology in Silicon Valley, I highlight traces of the paradigm in the beliefs of industry leaders; the practices of technology firms; and the books, magazines, manifestos, conferences, and think tanks that populate the Valley.

In the early 1990s, many technology workers began to think of the economy as a self-regulating system. In his 1990 book Bionomics, Michael Rothschild put forward an elegantly simple thesis that affirmed the self-regulating nature of the market: "the economy is a rainforest".20 So compelling was this notion in Silicon Valley that an annual Bionomics conference was established — organized by die-hard libertarians from 1993 to 1996 and then by the Cato Institute from 1997 to 1999 — and attended by technology

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heavweights, such Larry Ellison, CEO of Oracle, and Scott Cook, CEO of Intuit. The Cato Institute is a longstanding libertarian think tank that received a major influx of funding by conservative industry leaders, such as the Koch brothers, in the 1980s; and its interest in Silicon Valley attests to the region's libertarian sensibility early on. Outside of conferences, Wired magazine began to speak the language of cyberlibertarianism, starting with its founding in 1993, when it ran the headline "Big Brother Wants To Look Inside Your Bank Account (Anytime It Pleases)." Along with the suspicion of state power came a distaste for state regulations. A 1994 Wired piece proclaimed, "Regulation was the last concern of the highway builders." Paulina Borsook, who worked at the magazine in the 1990s, observed, "The magazine almost never ran anything that was anything that was other than laudatory of technology or other than libertarian in outlook." In 1994, a Berkeley professor observed that Silicon Valley engineers "[assumed] that the dynamism of free markets would be self-perpetuating and self-governing" and therefore "saw no need to attend to the institutional foundations of their vitality."

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Two years later, Andy Grove, the CEO of Intel, referred to the PC as an "organic phenomenon" that should not be manipulated by the state. Around this time, as the Cato Institute took a greater interest in the emergent technology industry, T.J. Rogers, Cato's west coast emissary, created a petition to decrease corporate taxes by ending corporate subsidies; the document was signed by a collection of technology CEOs and venture capital firms in Silicon Valley. By the end of the decade, many were speaking about technology in ecological and anti-statist terms. Richard Dawkins, with his social-evolutionary approach to intelligence and innovation, graced the cover of Wired in 1998. In her 1998 book, The Future and Its Enemies, Virginia Postrel followed Hayek and cast technological society as a conflict between the forces of dynamism, marked by free exploration, and the forces of statism, marked by state planning. Libertarianism was plainly in the Bay Area ether at this time, as a San Francisco Recorder headline read, "California's Tech Elite Remains Stubbornly Libertarian".

The 2000s witnessed the increasing popularity and profitability of the internet, as well as the instrumentalization of cyberlibertarianism by major technology figures and their firms. These figures, in the words Noam Cohen, "propose a society in which personal freedoms are near absolute and government regulations wither away, where bold entrepreneurs amass billions of dollars from their innovations and the rest of us struggle in a hypercompetitive market without unions, governmental regulations, or social-welfare

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to protect us”32. Their actions also highlight a paradox of cyberlibertarianism: a simultaneous rejection of the state and courtship of the state. These figures draw less on the ecological language of cybernetics and more on the self-regulating language of libertarianism. Peter Thiel, a founder of Paypal turned venture capitalist, is the likely most outspoken libertarian in the Valley, claiming he built Paypal "because he wanted to create a currency that could circumvent government control”33. Thiel funds the Seasteading Institute, which aims to create a free libertarian society on a manufactured island, beyond the jurisdiction of governments; and he famously paid twenty-four students to not attend college, which he considers an outdated institution.34 At the same time, Thiel's data mining company, Palantir, relied on the CIA as an early investor, contradicting his principled opposition to the state.35 Jeff Bezos, founder and CEO of Amazon, is also ambivalent toward state power. On the one hand, Bezos is comfortable pushing the limits of occupational safety regulations: following a New York Times story on the poor working conditions of Amazon fulfillment centers, Bezos insisted that the labor market was self-regulating, such that any of his workers could leave if they pleased.36 “I strongly believe," he wrote in a letter to employees, "that anyone working in

a company that really is like the one described in the NYT would be crazy to stay.”37 On the other hand, Bezos directly lobbied for the Internet Tax Freedom Act of 1998, which prevents governmental bodies from imposing internet-specific taxes; and he persuaded the US Justice Department to sue Apple's Tiny eBookstore for anti-trust violations.38 For Bezos, the state is only legitimate when conveniently so.

Likewise, Google is formally opposed to state regulations, as when it opposed the Stop Online Piracy Act of 2012, a bill crafted to stop copyright infringement on search engines like Google.39 Yet the company relies on the state to protect itself against foreign regulations: it is likely that Google's $15 million lobbying efforts led members of Congress to defend Google against EU regulatory bodies.40 There is also evidence of a "revolving door" between Google and the United States government, as workers regularly move from one to the other, suggesting a certain level of regulatory capture, or an instance when regulators are controlled by the industries they are designed to regulate.41 Here, governmental regulations are problematic, unless they are crafted by industry actors themselves. Similarly, as founder and CEO of Facebook, Mark Zuckerberg oversees his company's extensive lobbying efforts. Along with Amazon and Google,

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38 Jonathan Taplin, *Move Fast and Break Things*.
41 Jonathan Taplin, *Move Fast and Break Things*.
Facebook used its lobbying power to influence the crafting of an anti-human-trafficking bill that, in an early version, would have increased the legal liability of platform companies.\textsuperscript{42} Zuckerberg is staunchly opposed to such governmental regulation and positions users and engineers as superlative regulators. In 2010, when asked if Facebook should be regulated like other utilities, he replied, "I mean, in terms of regulation, we get regulated by users, right?"\textsuperscript{43} During his appearance in front of Congress in 2018, Zuckerberg insisted that automated technologies would be better regulators than governmental bodies. When Congressman David McKinley asked about Facebook's accountability for preventing misinformation, Zuckerberg replied, "What we need to do is build more A.I. tools that can proactively find that content."\textsuperscript{44} Here, the decisions of users and the designs of engineers are the only regulations necessary for the social media giant. Where these industry leaders are concerned with the regulation of internet firms and internet platforms, internet service providers (ISPs) are concerned with the regulation of internet networks. In 2018, Ajit Pai, chairman of the FCC, framed net neutrality provisions — state mandates that ensure that all internet network traffic is treated the same by ISPs — as "heavy-handed" regulations by an overbearing state.\textsuperscript{45} He even


\textsuperscript{43} David Kirkpatrick, \textit{The Facebook Effect}


causally connected the vitality of the internet to the absence of regulatory controls; as he explained in an interview, "We saw companies like Facebook, and Amazon and Google become global powerhouses, precisely because we had light-touch rules that applied to this internet."46 In all of these cases, the internet is a self-contained system, beyond the messy realities of regulations and institutions.

This brief account of cyberlibertarianism highlights the paradoxical and flexible nature of the digital ideology. In cyberlibertarianism, external regulations are detrimental to the internet — unless those regulations benefit technology firms. The formal agenda of regulatory resistance includes an exception when regulatory capture is necessary. In addition to being paradoxical, cyberlibertarianism is highly flexible. It can operate on the level of industry, as when technology firms resist regulation in the form of taxation and oversight by the state. It can operate on the level of websites, as when platform companies resist regulation in the form of legal liability over content. It can operate on the level of networks, as when internet service providers resist regulation in the form of net neutrality provisions. Each of these components of the internet may be positioned as an ecological system that risks damage by artificial institutions, unless those institutions can offer strategic leverage.

Needless to say, the role of the state in creating and maintaining the internet goes unrecognized in this framework, and cyberlibertarianism neatly lines up with the economic interests of technology firms — regulations are only legitimate when strategically valuable. However partial and motivated, cyberlibertarianism is an

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influential way of thinking about technology, and it informs the beliefs of industry figures, the practices of major firms, and the sensibilities of high-technology workers. It is the dominant narrative against which alternative accounts are positioned. In the following chapters, I show that internet markets offer an alternative account of technology, one that recognizes the role of regulation in electronic commerce. First, I review the research methods employed in this study and provide an overview of the case studies in question.

Method

Given the state of electronic commerce research, I began with the following question: what is the nature of exchange relations on internet markets? I understand internet markets as internet sites where a significant volume of exchange occurs between individual peers, and where peers generally do not manufacture the goods that they sell. By contrast, internet retailers are internet sites where a significant volume of exchange occurs between users and firms. In terms of digital architecture, internet markets are peer-to-peer or distributed platforms where users primarily encounter one another, while internet retailers are hierarchical or centralized platforms where users primarily encounter business organizations. Further, internet retail sales have an implied warranty, or a legal assurance that product claims are accurate.\(^47\) By contrast, internet markets need not guarantee the accuracy of user claims, enjoying an exemption from implied warranty.

under telecommunications law. Moreover, internet markets are distinct from online craft markets, where individuals themselves manufacture the goods that they sell, and where production and circulation are consequently interwoven. Internet markets are oriented around exchange, even as exchange carries within itself a collection of other phenomena.

Having set the boundaries and the framework of the study, I selected three cases on conceptual and methodological grounds. Craigslist, eBay, and Silk Road fit the definition of internet market outlined above. Their central function is peer-to-peer exchange — without the implied warranties of internet retail markets, without the micro-production of craft markets, and, as we'll see, without the regulations of conventional local, antique, and black markets. Absent such processes that mediate commerce, these internet markets isolate exchange as a conceptual object. As comparative case studies, Craigslist, eBay, and Silk Road are similar enough to demonstrate trends but different enough to illuminate nuances. That is, comparison helps distinguish between general features (shared by internet markets) and particular features (unique to each platform). Following the definitions laid out by Jeasik Cho and Allen Trent, I employed a paradigm of constructivist transactional validity. This means I was seeking accurate claims about internet markets that are grounded in evidence and that reflect an empirical reality.

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50 Jeasik Cho and Allen Trent, "Validity in Qualitative Research Revisited,” *Qualitative Research* 6, no. 3 (2006), 320, 10.1177/1468794106065006.
Consequently, I worked to confirm my research findings as accurate through triangulation, a process of verifying facts through multiple data sources.\(^{51}\)

Web crawls of six discussion boards constitute the first major source of research data (see Appendix I). These discussion boards offered a breadth of data related to patterns in user activity. Craigslist, eBay, and Silk Road each feature an internal discussion board on their respective web domains, as well as auxiliary discussion boards on the Reddit web domain. In order to identify trends in user activity on internet markets, I ran a total of eighteen web crawls — three on each of the six discussion boards. I used an iterative criterion sample to guide my data collection during the web crawls.\(^{52}\) That is, I sampled discussion board data based on a criterion (the inclusion of certain keywords) and ran multiple iterations of web crawls based on the findings of the preceding crawl(s). After developing a corpus of posts, I pattern-coded the parsed data with themes that emerged progressively during the initial review.\(^{53}\) Following collection, I employed a critical, interpretive approach to these case samples. Drawing on textual analysis, I sought to identify patterns in user activity, understood as a triplex of user experience, user practice, and user attitude.\(^{54}\)

Twenty-seven semi-structured interviews with internet merchants constitute the second major source of research data (see Appendix II). I followed IRB protocol at each stage of interview research, from contacting participants to storing data, and I received

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\(^{51}\) Cho and Trent, "Validity in Qualitative Research Revisited," 322.
\(^{52}\) Miles and Huberman, *Qualitative Data Analysis*.
\(^{53}\) Miles and Huberman, *Qualitative Data Analysis*.
\(^{54}\) Fürsich, "In Defense of Textual Analysis."
IRB approval from the University of Pennsylvania.\textsuperscript{55} Where the discussion boards offered a breadth of data related to user activity, the interviews offered a depth of data related to user activity. I selected interview participants first through a theoretical sample and then through a sequentially-driven conceptual sample.\textsuperscript{56} In the theoretical sample, I sought out experienced users of internet markets, understood as users who had been on Craigslist or eBay for over seven years. In the sequentially-driven conceptual sample, I sought interview participants who would reflect a variety of perspectives in terms of experience, age, and gender.\textsuperscript{57} Following recruitment, I conducted text-only internet interviews that occurred in private chat rooms over Cyph, a peer-to-peer online messaging system.\textsuperscript{58} In creating an interview template, I followed Herbert Rubin and Irene Rubin in thinking of interviews as "structured conversations"\textsuperscript{59} designed to cover research problems, which the interviewer develops beforehand, and to explore organic themes, which arise during the course of the interview. In analyzing the interviews, I pattern-coded the data with themes that emerged progressively during review. Following coding, I employed a critical, interpretive approach to the interview data.

Legal and governmental records constitute my third source of research data (see Appendix III). These records offered a breadth of data related to patterns in institutional activity. My goal in looking at these records was to understand the legal and governmental systems within which internet markets operate. In analyzing the data, I

\begin{itemize}
\item \textsuperscript{55} "Online Interviews with Craigslist and eBay Users," approved by the Institutional Review Board, University of Pennsylvania.
\item \textsuperscript{56} Miles and Huberman, \textit{Qualitative Data Analysis}.
\item \textsuperscript{57} Herbert Rubin and Irene Rubin, \textit{Qualitative Interviewing, 2nd ed.} (Thousand Oaks: Sage, 2012).
\item \textsuperscript{59} Rubin and Rubin, \textit{Qualitative Interviewing}, 129.
\end{itemize}
pattern coded the material according to themes that emerged during review. In interpreting the documents, I continued to employ a critical, interpretive approach, drawing on textual analysis to identify patterns in the systems surrounding internet markets. Here, however, I foregrounded the institutional context of their production. In addition to drawing on textual analysis, I drew on political-economic analysis in seeing states as actors with material and symbolic resources, as well as strong incentives to protect and maintain those resources.

Platform documents produced by internet markets constitute my fourth major source of research (see Appendix IV). These offered a depth of data related to patterns in platform activity. This allowed me to hone in on the proximate context and deliberate decisions of platforms, as they relate to institutional and user activity. These included user agreements, terms of use, user guidelines, market policies, and promotional materials. I pattern-coded this data with themes that emerged progressively through review, and some of these overlapped with themes that developed from other research sources. In interpreting these documents, I drew on textual analysis to identify patterns in platform activity. More notably, I drew on political-economic analysis to consider how the material interests of platforms inform their user documentation. This includes, for instance, how user agreements enable platform companies to control economic resources or evade legal liabilities. Finally, a variety of journalistic reports constitute the final source of my research (see Appendix V). These were selected on the grounds of relevance, mostly direct but sometimes direct, to the case studies.

Case Studies
A brief word on the case studies (see Appendix VI for a full primer). It should be noted at the outset that each of these platforms is an unstable conceptual object: architectures, protocols, functionalities, interfaces, and policies change over time. This means that accounts of platform activity are chronologically situated, and they should be taken as snapshots of fluid sites rather than as conclusive accounts.

Craigslist is a local internet market with over seven hundred internet domains (or addresses) serving seventy countries.60 Each month, Craigslist users post over eighty million classified advertisements, directed at physically proximate individuals within their neighborhood, city, region, state, or country.61 This is the reason for the plurality of internet domains: Craigslist addresses are location-based, meaning users in different geographical regions navigate to different website domains in order to conduct local commerce. In this respect, Craigslist is something of an umbrella term for the variety of local Craigslist domains, as there is no centralized market designed to reach the geographically distributed userbase in one fell swoop. This userbase is expansive: Craigslist is the fifteenth most visited website in the United States.62 These market participants post advertisements in a broad range of section categories: goods for sale and goods wanted, rentals and real estate, job opportunities and services for hire, community events and announcements, and a variety of discussion boards. There was previously a personals sections, which went through several incarnations before being removed entirely in 2018, following the passage of internet legislation that reduced platform

60 In this project, I use Craigslist (capitalized) rather than the stylized craigslist (lower case). "About,” Craigslist, retrieved March 2017, https://www.craigslist.org/about.
61 “About,” Craigslist.
immunity from criminal liability. Merchants meet one another in person to conduct the final transaction. In recent years, Craigslist has generated upwards of $700 million in revenue. With a small staff of forty people and minimal operating costs, plus a userbase of millions, the company enjoys a profit margin of 80%, making it the most profitable classified advertising site in the world. Despite increasing competition from similar (if not copycat) sites, such as Offer Up, Internet Yard Sale, and (as of 2016) Facebook Marketplace, Craigslist continues to dominate the field of peer-to-peer markets.

eBay is an online auction market with an expansive global presence. There are over 150 million active eBay users and 25 million active eBay sellers around the world, and the platform is ranked in the top ten for internet traffic in the United States and the top hundred in China, Japan, Canada, and Russia. In contrast to Craigslist users who are balkanized in local jurisdictions, eBay users meet in a common market, where they exchange upwards of a hundred billion dollars in merchandise each year. Given the size of the market, eBay is neatly (if not compulsively) divided into sections and

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63 See the discussion of the Craigslist personals section in chapter 4.
67 "How Popular Is eBay?," *Alexa*.
70 "How Popular Is eBay?," *Alexa*.
subsections: collectibles, fashion, electronics, cars, home and garden, sporting goods, and others. These sections are Russian dolls with multiple nested subsections. Collectibles, for example, divides into antiques, coins, and comics, which may then be filtered according to era, brand, and condition. eBay began as an online antique market, and, after going public in 1998, expanded its product selection and acquired dozens of electronic commerce sites in the wake of the Web 2.0 boom.\textsuperscript{72} Significantly, in 2004, eBay took a 28% stake in Craigslist when it bought out a disgruntled shareholder, but the relationship ended in 2008, when eBay sued Craigslist for diluting its stake in the company to 24% and thereby removing its board seat; Craigslist ultimately bought back to the minority stake.\textsuperscript{73}

Silk Road was one of the first dark web markets\textsuperscript{74} and among the most active during its run from 2011 to 2013\textsuperscript{75}. The site dealt predominately in drugs, firearms, fake IDs, hacking manuals, criminal guidebooks, bootlegged software, and money laundering services. Although buyers hailed from over a hundred countries worldwide, sellers tended to be based in the Western world, especially North America and Europe.\textsuperscript{76}

\textsuperscript{76} These trends, gleaned from the evidence in United States v. Ulbricht roughly reflect the worldwide distribution of Tor users, as outlined by the Oxford Internet Institute. Of course, Tor activity and dark web activity should not be equated, insofar as Tor serves a variety of purposes outside of dark web access, including identity protection for political dissidents and victims of domestic abuse. These trends also reflect Jamie Bartlett's claim that Silk Road vendors tend to be based in the United States, the UK, and Australia.
course of its tenure, Silk Road generated over two hundred million dollars in sales, and its owner, Ross William Ulbricht, collected over eighteen million dollars in commission therefrom. The U.S. Federal Bureau of Investigation (FBI) shut down the site in 2013 following a two-year investigation into its operation and ownership, leading a federal judge to sentence Ulbricht to life in prison without parole during a 2014 trial.


CHAPTER 1
HOW TO GET AWAY WITH INTERNET FRAUD
EXPLOITING DIGITAL PROTOCOLS

Internet markets represent cyberlibertarian ideals put into practice. As free digital markets, they embody the *laissez faire* principles championed by cyberlibertarianism. Craigslist, eBay, and Silk Road each draw on cyberlibertarianism to characterize their platforms as self-regulating. By these accounts, internet markets should be perfect. Yet problems of fraud, deception, manipulation, and coercion emerge on these platforms, and institutions make sporadic appearances in economic conflicts. In such cases, users pursue their economic self-interest through the manipulation of platform protocols. This is significant, because protocols are designed to replace regulations in the context of digital exchange. Not only are internet markets far from self-regulating, but the digital protocols that are supposed to make regulations obsolete end up being the very tools by which internet actors defraud and deceive one another. So much for digital equilibrium.

Platform Cyberlibertarianism

In the introduction, I noted that cyberlibertarianism operates on the level of firms, networks, and platforms. Internet markets fall under the aegis of platform cyberlibertarianism, according to which internet websites are self-regulating. Several authors describe how the discourse of cyberlibertarianism operates on the level of platforms, although they use different terms to characterize that discourse. Tarleton Gillespie considers how platform companies draw on cyberlibertarianism to position their
websites as neutral venues of exchange. Gillespie argues that the very term "platform" connotes an impartial foundation upon which free association rests. A platform is not an active participant on the internet but a "mere facilitator, supporter, host" whose central function is "the neutral provision of content". As neutral venues of internet exchange, platforms are not responsible for the actions of users, and they need not institute regulations to control user behavior. Similarly, for Trevor Scholz, the term "Web 2.0" implies that internet platforms are beyond regulation, governed by peer-to-peer agreement rather than hierarchical authority. José Van Dijk and David Nieborg relatedly observe that electronic commerce manifestos position user activity as fundamentally cooperative. Here, platform regulations are unnecessary, because voluntary participation is at the center of internet exchange.

Silk Road, eBay, and Craigslist each draw on cyberlibertarianism to characterize their platforms as self-regulating and to justify their laissez faire regulatory regimes. This is evident in their public presentation, legal strategy, and platform policy — even as it is sometimes contradicted by their cooperation with state institutions. As a black market set in opposition to state power, Silk Road most dramatically embodies cyberlibertarian ideals. Ross William Ulbricht, Silk Road's architect and executive operator, saw Silk Road as a principled libertarian sphere of exchange. His logic ran as follows: trade is

80 Gillespie, "The Politics of 'Platforms'," 353.
inherently cooperative; the state is inherently coercive; when the state ceases to regulate trade, actors will come together to form mutually beneficial economic relationships. In his LinkedIn profile, Ulbricht directly contrasted economic cooperation and political compulsion:

I want to use economic theory as a means to abolish the use of coercion and agression [sic] amongst mankind. Just as slavery has been abolished most everywhere, I believe violence, coercion and all forms of force by one person over another can come to an end. The most widespread and systemic use of force is amongst institutions and governments, so this is my current point of effort. The best way to change a government is to change the minds of the governed, however. To that end, I am creating an economic simulation to give people a first-hand experience of what it would be like to live in a world without the systemic use of force.83

For Ulbricht, Silk Road was an "economic simulation" of a libertarian society, in which the invisible hand of the free market underwrote economic cooperation. Absent state economic regulation, nonviolent agreement among self-interested actors would become the salient principle of economic relationality.

Further, Ulbricht saw economic cooperation on Silk Road as a means of eroding state power. In a discussion board post on the Silk Road forums from September 2012, he positioned the popular agora of Silk Road in opposition to the coercive apparatus of the state: "Every single transaction that takes places outside the nexus of state control is a

victory for those individuals taking part in the transaction. So there are thousands of victories here each week and each one makes a difference, strengthens the agora, and weakens the state." Here, Ulbricht subscribed to a market-centric version of libertarianism (agorism) and a repressive theory of state power, in which governments "limit people's access" to commodities that would otherwise circulate freely in the market. He saw each transaction on Silk Road as a countervailing actualization of negative liberty, specifically the freedom to trade "outside the nexus of state control". As economic freedom in civil society expanded, he reasoned, political authority in state structures would diminish. Exchange relations — cooperative, consensual, and egalitarian — would make obsolete centralized state power and a fortiori state economic regulation.

After his arrest in October 2013, Ulbricht continued to defend his actions on principled libertarian grounds. In his pre-sentencing submission to the court, Ulbricht wrote, "I believed at the time [of creating Silk Road] that people should have the right to buy and sell whatever they wanted to long as they weren't hurting anyone else... Silk Road was supposed to be about giving people the freedom to make their own choices, to pursue their own happiness, however they individually saw fit." Even the popular press branded Ulbricht has a kind of entrepreneurial cyberpirate. The Economist, a flagship of economic liberalism, noted that product quality on Silk Road was higher than in the street.

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trade, a fact that ostensibly demonstrated the self-regulating capacity of the free market.\textsuperscript{86} Forbes highlighted the political nature of Ulbricht's black market experiment, likening him to "Julian Assange with a hypodermic needle".\textsuperscript{87} The libertarian celebration of the site was not limited to the fiscally conservative press, however. When Gawker published the first major exposé of Silk Road in June 2011, a staff writer declared that Silk Road made "buying and selling drugs as easy as buying used electronics" and embodied a "dream of a distributed digital economy outside the law, where money flows across borders as free as bits".\textsuperscript{88}

Where Ulbricht positioned Silk Road as a extrastate market utopia, eBay positions itself as a cooperative consumer arcade. As a publicly traded company, eBay is less dramatically cyberlibertarian than Silk Road, but it nevertheless draws on the discourse of self-regulation in several arenas. In their promotional materials, eBay is "the perfect store": the platform circulates superlative commodities among a collaborative group of users, scattered around the country and the world.\textsuperscript{89} Customers purchase goods at low prices, and vendors sell them at high prices — an evidently contradictory claim that is meant to attract buyers and sellers alike, both of whom are said to contribute to a thriving


\textsuperscript{89} Adam Cohen, \textit{The Perfect Store: Inside eBay} (Boston: Little, Brown and Company, 2002).
and idiosyncratic online marketplace. eBay's origin story features an emblematic mix of merchant cooperation and market serendipity. As related by eBay's public relations manager in 1997, the story runs as follows. Pierre Omidyar, eBay's founder, created the site to help his fiancée locate a rare Pez dispenser. As antique dealers began to populate the platform, Omidyar spoke with knowledgeable merchants, learned about the collectibles trade, and followed scattered leads until he found the treasured piece of plastic. The tale is a colorful combination of market acumen, digital crowdsourcing, free association, commodity culture, and romantic tropes, all in one fell swoop. It is also a lie: as Adam Cohen revealed several years later, the story was entirely fabricated by eBay's public relations manager to create a compelling narrative for the press.90 Despite being factually incorrect, the origin story captures the cooperative ethos of the company's public presentation, an ethos that lives on in its colorful television commercials and print advertisements. eBay's 2017 Fill Your Cart With Color commercial features a concatenation of eccentric figures, each exhilarated by a recent purchase, and asks, "When did shopping get so beige?"91

In its legal claims, eBay affirms a wide-ranging immunity from state regulations. Under Section 230 of the Communications Decency Act, as well as the 4th circuit ruling in Zeran v. American Online, Inc., internet platforms are largely immune from liability as speakers, publishers, or distributors of third-party content.92 That is, they cannot be held legally responsible for the behavior of users on their platform. eBay asserts and extends

90 Adam Cohen, The Perfect Store.
91 eBay Inc., "Fill Your Cart With Color," television advertisement, directed by Bridget Savage Cole, Josh Nussbaum, and Director X.
its legal immunity in its terms of use. The agreement exempts the platform from damages in a variety of commercial circumstances: "eBay has no control over and does not guarantee the existence, quality, safety or legality of items advertised; the truth or accuracy of users' content or listings; the ability of sellers to sell items; the ability of buyers to pay for items; or that a buyer or seller will actually complete a transaction or return an item." Users cannot hold the platform responsible for "loss of money, goodwill or reputation, profits, other intangible losses, or any special, indirect, consequential damages" even in cases of property destruction or malicious software infection.

eBay's team of litigators has relied on these legal protections to thwart damage claims in a number of contested cases. In 2004, an eBay user, Roger Grace, sued the company after another user posted negative feedback on his page. Claiming that the negative feedback constituted defamation and injured his commercial reputation, Grace sought damages from eBay in California court. The court ruled in eBay's favor, citing Section 230 of the Communications Decency Act and eBay's terms of use in determining that the platform was not responsible for the user's loss of commercial reputation. In 2008, eBay took on a bigger fish: Tiffany & Co., a publicly traded luxury jewelry business. Tiffany & Co. sued eBay for false advertising, trademark infringement, and trademark dilution, pointing to the sale of counterfeit Tiffany & Co. items on the platform

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94 User Agreement.
95 Grace v. eBay, Inc, 16 Cal.Rptr.3d 192 (California Ct. App. 2004).
and the presence of the company logo in eBay's promotional materials. The court again ruled in eBay's favor, citing Section 230 of the Communications Decency Act and the principle of nominative fair use. As a host of third-party content, eBay was not responsible for the sale of counterfeit goods on the site.

At the same time, the Tiffany & Co. lawsuit demonstrates that eBay is willing to cooperate with state institutions. During the case, eBay revealed that companies who find counterfeit versions of their products in the auction market may request the takedown of those items through a copyright violation functionality. Hence, even as eBay resists state regulation, it follows state directives over copyright law, incorporating those directives into platform infrastructure. The cyberlibertarian paradox of the state is evident here, as eBay moves between regulatory evasion and regulatory abidance. eBay's status as a publicly traded company figures largely into this picture: the platform wants to minimize the economic costs associated with platform regulation, as well as the political costs that would accompany state violations.

Craigslist draws on cyberlibertarianism to present itself as a local neighborhood market governed by countercultural reciprocity. As a venue that regularly cooperates with the state, Craigslist is the least dramatic case of cyberlibertarianism, but it draws on the discourse in multiple contexts. Despite being a multimillion-dollar company, Craigslist regularly presents itself with minimal fanfare, ostensibly the embodiment of a laid-back and user-friendly digital platform. Though rarely advertised, the platform enjoys a word-of-mouth popularity, having leveraged its early web presence and sheer utility to become an emblem of straightforward internet exchange. Its famously unassuming interface has

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remained virtually unaltered since the late 1990s, becoming a point of cheeky contestation between minimalist users and their aesthete counterparts. (In a characteristically ambivalent headline, Wired describes the interface as "ugly, janky, old-school... and unbeatable".97) Its logo, also unchanged since the late 1990s, is the company name, stylized in all lowercase, in purple, Times New Roman font, sometimes preceded by a small peace sign. CEO Jim Buckmaster designates himself as "anti-establishment" and "a socialist anarchist".98 At the 2013 Open Source Convention, the company's booth consisted of a plain white backdrop and small, round table, draped in a tie dye cloth.99

Like eBay, Craigslist employs a team of litigators to defend its lax regulatory regime. In 2008, after someone posted a racially discriminatory housing advertisement on the site's Chicago portal, a group of civil rights lawyers sued the platform for violating nondiscrimination statutes.100 The court ruled that Craigslist was not accountable for discriminatory posts, relying on Section 230 to justify the platform's hands-off regulatory regime. When the Sheriff of Cook County sued Craigslist for facilitating prostitution in its (now deleted) Erotic Services section, the court ruled in favor of Craigslist on similar grounds, noting in its verdict, "Craigslist does not 'provide' the [illegal] information, its

100 Chicago Lawyers Committee for Civil Rights Under Law v. craigslist, Inc., 519 F.3d 666 (7th Cir. 2008).
In addition to its legal efforts, Craigslist encodes its combination of executive authority and regulatory neutrality in its terms of use. There, the platform affirms its exclusive discretion over platform moderation and its laissez-faire policies on market regulation: "[W]e make no promise as to CL, its completeness, accuracy, availability, timeliness, propriety, security, or reliability." Hence, in 2010, when the internet company Naturemarket developed software to automatically post advertisements on Craigslist, Craigslist won a permanent injunction suit against them. Here, the Computer Fraud and Abuse Act underwrote the court's decision that the violation of Craigslist's terms of use constituted a contract violation. This case, in turn, served as a precedent for three subsequent cases, in which Craigslist successfully sued groups and individuals who posted content on behalf of third parties, developed similar auto-post software, or scraped Craigslist content for redistribution on other sites. In these instances, Craigslist affirmed its executive authority over the platform and its legal immunity from any misconduct transpiring therein.

At the same time, Craigslist regularly accommodates state institutions. The saga of the Craigslist Personals section is a nice illustration of this paradoxical relationship. For many years, the platform included an Erotic Services section, where sex workers often posted advertisements. In 2009, the same year that Craigslist faced off with the

105 craigslist, Inc. v. Alecksey Kerbel et al., C-11-3309 EMC (N.D. Cal. 2012).
Sheriff of Cook County, platform executives met with attorney generals in multiple states; and they ultimately replaced the Erotic Services section with an Adult Services that was to be subject to manual review.¹⁰⁷ A year later, after Craigslist executives were called to testify in front of the House Judiciary Committee's Subcommittee on Crime, Terrorism, and Homeland Security, the company shuttered the Adult Services section entirely, releasing a statement that affirmed their cooperation with institutional actors: "In Craigslist, law enforcement and NGO advocates have a highly responsive partner."¹⁰⁸

More recently, Craigslist closed its Personals section, which became the de facto venue for sex work in the wake of section shutdowns, in response to internet legislation designed to fight human trafficking.¹⁰⁹ This brief history demonstrates the ambivalence toward the state operative in cyberlibertarianism: Craigslist evades state regulations, on the one hand, and follows state directives, on the other.

Fraud, the Fatal Conceit

Internet markets embody the laissez-faire principles of cyberlibertarianism. They are free markets, or spheres of economic exchange that are not subject to commercial regulatory systems. They feature no economic regulation in the form of contracts and courts; and they feature no social regulation in the form of status codes and tight-knit

communities. Further, as free digital markets, they feature no stable identities, insofar users may create and delete online avatars with relatively little effort and with relatively little consequence. Internet markets are built upon the mutual association and voluntary cooperation of independent traders. According to cyberlibertarianism, they should be self-regulating centers of economic activity. Yet these platforms are host to fraud, deception, manipulation, and coercion, which occur through the manipulation of platform protocols designed to replace regulations. Far from self-regulating, internet markets feature diverse forms of economic conflict, underwritten by the very protocols designed that are supposed facilitate cooperative exchange.

Fraud is a form of economic or social gain that operates at the intersection of deception (having others think what you want them to think) and manipulation (having others do what you want them to do). Scams, or confidence schemes, are sophisticated forms of fraud that exploit foibles of the human psyche, such as greed, vanity, or naïveté. Fraud is a major criminal problem on the internet. According to the United States Federal Bureau of Investigation (FBI), internet fraud is the single most commonly reported internet crime in the US, with over 100,000 complaints each year.\textsuperscript{110} In addition to personal anonymity and physical distance, the predominance of linguistic communication online makes the internet an ideal venue for deception. Lies are generally more difficult to detect in computer-mediated encounters than in face-to-face ones, mainly because the

\textsuperscript{110} As fraud investigators note, the number of reported cases is far below the actual rate of occurrence. This is because victims are often embarrassed at having been defrauded; because they lose small amounts of money or minimally valuable goods and do not want to involve investigators in seemingly trivial matters; and/or because they discover that reported cases of internet fraud are rarely solved. Internet Crime Complaint Center, "Internet Crime Report, 2017," last modified January 15, 2018, https://pdf.ic3.gov/2016_IC3Report.pdf.

Regulations typically safeguard merchants against fraud. There two major forms of regulation that concern us here. There are economic regulations, or the formal legal mechanisms by which institutions (including state institutions) intervene in trade relations — the Federal Trade Commission, small claims courts, consumer protection agencies, anti-trust laws, and so forth. In the sphere of exchange, the contract is the foundational form of economic regulation, and the court system is the central enforcing authority.\footnote{Avery W. Katz, "Economic Foundations of Contract Law," in Gregory Klass, George Letsas, and Prince Saprai, eds., \textit{Philosophical Foundations of Contract Law} (Oxford University Press, 2014): 171-192.} For instance, if a seller violates the terms of a contract, a buyer may seek institutional recourse through legal arbitration in order to enforce the contract's terms.\footnote{Stephen A. Smith, "Remedies for Breach of Contract: One Principle or Two," in Gregory Klass, George Letsas, and Prince Saprai, eds., \textit{Philosophical Foundations of Contract Law} (Oxford University Press, 2014): 341-361.} As Kojin Karatani argues, economic regulations by the state help minimize the conflictual dimension of capitalist market exchange.\footnote{Kojin Karatani, \textit{The Structure of World History}, trans. Michael K. Boudaghs (Durham: Duke University Press, 2014).} There are also social regulations, or informal standards of appropriate conduct that indirectly mediate exchange relations — notions of...
reputation, fidelity, decency, character, and good faith. In the sphere of exchange, status codes are a common form of social regulation, and the community is a central enforcing authority.115 Michael Aglietta notes that social regulations are particularly important in the context of contemporary market exchange, where traders meet one another as abstract actors rather than as community members.116 Economic and social regulations both rely the known identities of actors, who may be bear the consequences of contract violations and status injuries.

On the internet, there are a variety of mechanisms designed to control user behavior and stabilize internet exchange.117 One of these mechanisms is the protocol, an infrastructural rule of engagement that sets the groundwork for computational operations.118 For example, payment protocols determine whether or not a user has entered valid financial information or placed money in a website escrow. As basic rules of computational engagement, protocols are grounded in programmed systems, and, though they may be overseen by humans, they are largely automated.119 By contrast,
regulations are grounded in jurisdictive institutions, such as courts and communities, which can legitimately control human behavior through coercive measures, such as contract violations and status injuries. Regulations are superstructural operations that rely on judicious human arbitrations, while protocols are infrastructural operations that rely on authenticating automated mechanisms.

Some studies of electronic commerce frame protocols as effective replacements for regulations. These studies operate under the cyberlibertarian assumption that internet exchange is fundamentally cooperative and that internet platforms are basically self-regulating — with the caveat that automated protocols lay the foundation for self-regulation. The idea that commerce can be fully automated, and thereby transcend the vagaries of contract and state, is particularly evident in discussions of reputational protocols. For instance, Eric Goldman argues that reputational protocols, or online feedback systems, are effective replacements for market regulations.\(^\text{120}\) For Goldman, reputational protocols ensure cooperation in online markets by exposing misbehaving merchants through negative reviews. These protocols are "secondary invisible hands"\(^\text{121}\) that require no regulatory authorities, just as Adam Smith's invisible hand of price determination requires no central institution to appraise the value of goods.\(^\text{122}\) Goldman anticipates an objection to his argument: what if those feedback systems are themselves


\(^{121}\) Goldman, "Regulating Reputation," 53.

unreliable, as when restaurant owners review their own businesses on Yelp\textsuperscript{123} or when Amazon sellers use fake accounts to post feedback on their own wares\textsuperscript{124}? Goldman counters: to determine if reputation systems are reliable, users can furnish second-order reputations systems that rate the quality of each feedback system. Goldman refers to this meta-reputation system as the "tertiary invisible hand"\textsuperscript{125}, a reputation system that determines the reputation of another reputation system. For Goldman, the fraudulent elements of exchange can always be mediated by a supplementary cooperative tool, and the regulatory lacunae of internet platforms can always be replaced with automated protocols.

Let's now turn to the internet markets under consideration. We'll begin with a radically automated market (Silk Road), move onto a widely automated market (eBay), and conclude with a minimally automated market (Craigslist).

Honor Among Thieves

Exchange relations on Silk Road were the most fraudulent and aggressive among the internet markets under consideration, and they contradicted Ulbricht's cyberlibertarian presentation of the platform as a principled libertarian sphere. As a free market, Silk Road relied on a series of protocols in place of regulations. In place of status codes, vendor pages featured a rating protocol through which buyers could assess the seller's customer service, delivery time, and quality of purchased goods. In place of contracts,

\textsuperscript{123} Joel Grover and Amy Corral, "Don't Fall for Fake Reviews: I-Team Uncovers Them on Yelp, Facebook, Google," \textit{NBC Los Angeles}, September 25, 2017.
\textsuperscript{125} Goldman, "Regulating Reputation," 53.
transactions occurred through a payment protocol: when purchasing a product, buyers placed their bitcoin in a site-supported escrow, which released the currency to the vendor once the buyer confirmed receipt of the contraband. The escrow protocol also furnished profits for the site executive, Ross William Ulbricht, who collected a commission from each transaction, ranging from 10 to 20% of the sale price. In place of identities, merchants used profile protocols. To create an account, users had to provide their bitcoin wallet information and generate a unique username. Purchasing contraband on the site also required buyers to provide a delivery address. Buyers alternately provided their own home address, a postal office box, or a working mailbox at a nearby unoccupied home.

Anonymity distinguished Silk Road from the traditional black market, where face-to-face interactions generally give rise to the status codes that the platform sought to automate.

Fraud, deception, manipulation, and coercion were significant problems on Silk Road. In those cases, users pursued their economic self-interest by manipulating platform protocols designed to replace regulations. In white-washing scams, vendors exploited the rating, payment, and profile protocols in order to develop trust, acquire capital, and leave the site without major consequence. During rating extortion schemes, vendors manipulated the rating protocol and the profile protocol, leveraging customer information and the specter of state power in order to boost their platform reputation and on-site sales. Ulbricht himself was subject to extortion through the payment protocol, as blackmailers demanded that he send website commission their way, lest they expose him to state

power. Ulbricht ultimately turned to brute force to counter these protocol exploits, enacting the very violence that the site was designed to obviate.

Vendor scams on Silk Road occurred through the manipulation of payment, rating, and profile protocols. The most prevalent scam on the site was known as whitewashing: a vendor developed a high rating, accepted multiple payments in exchange for contraband, persuaded buyers to immediately verify their transactions, collected the escrow payments released thereby, and then closed her vendor account without sending the purchased products. Ulbricht's records and correspondences, gleaned from his federal trial, paint a picture of a digital black market beset by scams.127 Less than a year after launching the site, Ulbricht noted to a friend that he was banning between one and three vendors per week for engaging in whitewashing scams.128 In January 2013, Ulbricht banned a vendor for "scamming many buyers with fake products"129, after which the vendor returned to the site under a different username. As Ulbricht explained in his business log, "He goes in stealth and then comes back and repeats."130 In April, a Silk Road vendor developed a "quickbuy" program that lured new buyers with product markdowns, only to disappear after accepting payments.131

The site's discussion board was filled with accounts of these whitewashing scams, as well as strategies to avoid them. After ordering three thousand dollars worth of narcotics, a buyer was stonewalled by her vendor: "Now he will not answer my emails. I

128 United States of America v. Ross William Ulbricht, Exhibit DX 227A.
called his phone and he denied knowing who I was, even though I know his voice from having spoken to him over the phone before." A discussion board poster noted that others had complained about the same vendor, who "clearly built up his reputation and trust as a vendor with small and medium sized orders" before "scamming people on his way out with some big orders". One user maintained a list of Silk Road scammers on the discussion board, and nearly sixty vendors were listed by the time the site was shut down. Part of the problem of identifying scammers was the ease with which they could make new accounts. After a reputable vendor, under the username tony76, executed the most lucrative white-washing scam in the history of the site, users tried to identify his new account through textual cross-analysis of his product advertisements. As one user noted, "It's just so hard to punish scammers when everything is anonymous." One bitter user complained that Silk Road was "nothing but scamming and hacking, disappearing vendors and disappearing [bitcoin]". Another agreed, writing, "Out of the ~10 purchases I have made, I have only NOT been ripped off on 1 order. Fuck [Silk Road]. Last time I get ripped off."

The collection of buyer addresses for blackmailing purposes was quite common among Silk Road vendors. Here, sellers exploited the rating protocol and the profile protocol to leverage customer information and boost their platform reputation. Ulbricht's correspondences reveal concerns over the practices of rating extortion. One user wrote privately to Ulbricht in December 2011, warning him that a major vendor, Paperchasing, was regularly extorting buyers for high vendor ratings: "Paperchasing is not only blackmailing folks into 5/5's or face his wrath, he's also keeping addresses — or as he says, he has a 'good memory' for them — so in spite of his 1000+ orders if someone
who's [sic] crossed his little feedback fetish tries to order under another name, he can 'remember' their addy [sic] from before." During his testimony in United States v. Ulbricht, a Silk Road vendor by the name of Mr. Duch confessed to similar practices. Responding to questions from the prosecution, Mr. Duch explained:

Q: What records did you keep?
A: Essentially, I created a spreadsheet that tracked all the business that I conducted, all the drugs that I sold on Silk Road.

Q: Did you keep your customers' addresses?
A: Yes, I did.

Q: You weren't supposed to do that under Silk Road's rules, right?
A: No, I wasn't.

Mr. Duch even forced buyers to grant him high ratings as a condition of sale. As he explained on his vendor page, "YOU MAY NOT ORDER unless you agree to rate 5 out of 5 no matter what happens, with the product, the packaging, delays or anything else!" In a private conversation, Ulbricht referred to this kind of forced feedback as among the site's "major issues", along with scams and fake products.

On the site's discussion board, many users complained about being subjected to rating extortion. When a buyer left a vendor a negative review in March 2013, the vendor demanded a revision to the feedback, threatening, "I'll hand over your info to the cops... I've got your address, your purchasing stats, a list of what your ordered from me." One

\[132\] United States of America v. Ross William Ulbricht, Exhibit F.
discussion board poster noted, "Most vendors on here are stupid enough to keep a list of addresses in a text document for blackmail purposes later." Another responded cheekily to this claim, "Hey now... not always a text document. Some of them use an Excel spreadsheet." When a buyer complained that forcing 5/5 ratings seemed "to defeat the purpose of the review system", another responded, "It shouldn't be the norm, but it is."

The problem of address blackmail and feedback extortion lead some buyers to open a P.O. box with false identifying information. This relieved their concern "about being blackmailed" if they "worked with the wrong person". After a vendor offered free samples of narcotics on the discussion board "to establish credibility", a buyer asked, "How do we know you're not LE [law enforcement] or someone who is harvesting addresses in order to blackmail people at a later date?" Similarly, in August 2013, a few weeks before the site closed down, a discussion board poster asked, "What on EARTH is there to prevent a vendor from turning into a blackmailer?"

Ulbricht himself was subject to extortion on numerous occasions, as blackmailers exploited the payment protocol and the abeyant presence of state power to demand that platform commission come their way. The executive kept track of these extortion schemes in his personal records. In November 2012, he received a message from an anonymous Silk Road user, who threatened to attack the site through a flaw in its infrastructure: "I was able to exploit a vulnerability in one of the pages on silk road in a way that will cause a DOS [denial-of-service] attack and SQLI [structured query language injection] attack. Send 5k to [encrypted address] if you are satisfied with WHAT I am doing. Send 15k to the same address to know HOW I am doing it."136

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136 United States of America v. Ross William Ulbricht, Exhibit 227G.
Ulbricht apparently yielded and sent the ransom to prevent a shutdown. In May, Ulbricht paid a steeper price to stop a similar attack, writing in his business log, "attacker agreed to stop if I give him the first $100k of revenue and $50k per week thereafter."¹³⁷ In addition to the functionality of the site and its concomitant profitability, Ulbricht's personal identity became an object of leverage during several extortion schemes. Shortly before the attack in May, Ulbricht noted in his business log, "being blackmailed again. someone says they have my ID, but hasn't proven it".¹³⁸ By the next day, Ulbricht had concluded that the blackmailer was a fraud: "guy blackmailing saying he has my id is bogus".¹³⁹

Ulbricht went to violent lengths to counter these threats and maintain his assets, evading protocols altogether and employing the very coercion that the site was designed to obviate. Ulbricht kept track of his revenge plans in his personal records. When a vendor threatened to release thousands of buyer addresses in March 2013, Ulbricht hired a hit man to identify, locate, and murder him.¹⁴⁰ The hit man claimed to be associated with The Hells Angels Motorcycle Club, as Ulbricht noted in his business log.¹⁴¹ Yet, as the federal court case revealed, the hit man was actually a con artist — one who ultimately cheated Ulbricht out of three hundred thousand dollars for a hit that never transpired.¹⁴² A month later, Ulbricht hired the same hit man to execute a Silk Road vendor who, in classic whitewashing style, "[made] selling accounts, [sold] for a while,

¹⁴⁰ United States of America v. Ross William Ulbricht, Exhibit 926.
and then [pulled] a big scam and just [kept] creating new accounts after he [did] his scams".tí The hit man encouraged Ulbricht to have him execute not only the scamming vendor but also his three associates, who had "probably ripped off millions of $ at this point".ú Ulbricht responded quite casually to the suggested four-person hit: "hmm... ok, I'll defer to your better judgment and hope we can recover some assets from them.² The prosecution highlighted this occurrence in arguing "Ulbricht was just as willing as a traditional kingpin to use intimidation and violence in furtherance of his criminal enterprise."³ Indeed.

All of these forms of economic conflict relied on the manipulation of platform protocols. White-washing vendors exploited the rating protocol to develop a positive reputation; the payment protocol to receive an early payment; and the profile protocol to leave the site without major consequence. These protocols respectively failed to replace status codes, economic contracts, and stable identities — the conventional basics of social and economic regulations. In cases of rating extortion, vendors manipulated the rating protocol and the profile protocol, leveraging the delivery details of buyer profiles and the abeyant presence of state power to artificially inflate their reputation. This kind an artificial inflation could only occur because platform reputations were formalized and automated, in contrast to an interpersonal community, where status is informal and interpersonal. Further, the executive extortion of Ulbricht occurred through the exploitation of the payment protocol and the specter of state power, as blackmailers

143 United States of America v. Ross William Ulbricht, Exhibit 936.
144 United States of America v. Ross William Ulbricht, Exhibit 936.
threatened to shut down the site and expose Ulbricht to federal authorities, in order to collect platform revenue that flowed through the commission system. The state was present in abeyance during rating extortion and executive extortion schemes, as the threat of exposure to state power served as strategic leverage for blackmailers. At the same time, the state was absent when Ulbricht needed it the most — as an institution to protect his property rights over the platform. Without property rights, or even status claims, Ulbricht had to rely on brute force to protect his ownership of the site, ultimately evading protocols altogether and enacting physical violence.

The Perfect Store

Compared to Silk Road, exchange relations on eBay are far less fraudulent and deceptive, but they stand in opposition to the platform's cyberlibertarian self-presentation as a cooperative consumer arcade. As a free market, eBay relies on a series of protocols in place of regulations. In place of status codes, the platform features a rating protocol through which trading partners can assess their mutual experiences in conducting commerce. After winning an auction for a product, buyers pay vendors through PayPal, a payment protocol designed to replace contracts and commercial intermediaries. eBay collects a commission on each transaction, ranging from ten to twenty percent of the selling price, and charges a fee for vendors to post goods. In place of court arbitration, the site maintains a dispute resolution center to resolve contested transactions, including claims of fraud. The dispute resolution center is a largely automated economic protocol that determines appropriate compensation through prescribed rules and algorithms.
Finally, in place of identities, merchants use profile protocols, which require only a working email address and, in the case of vendor profiles, a valid credit card number.

The dispute protocol is key to fraudulent exchange on the site, and its intricacies are worth noting. eBay is a publicly traded company with a fiduciary responsibility to to its investors.\textsuperscript{147} Because eBay collects a commission on each transaction, and because the platform hosts far more products than customers, the company is also committed to widespread buyer satisfaction. To assuage buyer concerns about internet fraud, eBay maintains a Money Back Guarantee policy, which ensures that buyers will be refunded if they are unsatisfied with their purchase.\textsuperscript{148} Consequently, eBay's dispute resolution center is decidedly biased in favor of the customer. When buyer and seller differ in their accounts of an exchange, the dispute resolution center overwhelmingly favors the buyer's account of events. Significantly, when a contested transaction concludes in the buyer's favor, eBay automatically refunds the buyer by charging the vendor's credit card or Paypal account (recall that vendor profiles require a credit card number). When this happens, eBay also prevents the buyer and the seller from giving each other ratings, lest harsh words scare the former away. In this respect, the company's commitment to the maintenance of a customer base undermines the neutrality of its dispute resolution center. Hence, the dispute resolution protocol is far removed from the independent adjudication of contract disputes found in institutional court systems.

\textsuperscript{147} eBay shares are listed on NASDAQ under the symbol EBAY. The company went public in 1998. For more on the history of eBay, see Appendix VI.

eBay plays host to fraud, deception, manipulation, and coercion. In such instance, users pursue their economic self-interest through the manipulation of platform protocols. During delivery scams and fake object scams, deceptive users exploit the dispute resolution protocol, the payment protocol, and the profile protocol to obtain money or objects without a reciprocal exchange of value and without significant consequence. Intimidation tactics are likewise designed to occasion a one-way value transfer through the manipulation of the dispute resolution protocol. State structures are less of a presence on eBay than on Silk Road, furnishing the postal system through which auction items are delivered without serving as an actual commercial intermediary. However, corporate structures are more of a presence on eBay than on Silk Road, insofar as the platform's financial organization informs the biases of the dispute resolution protocol — biases that are exploited during fraudulent schemes. In all of these cases, eBay is far from self-regulating; and digital protocols not only fail to replace regulations but contribute to the economic conflict that regulations are designed to mediate.

Two scams are particularly common on eBay, and both rely on the manipulation of the dispute resolution protocol and the payment protocol. In the delivery scam, a buyer purchases a product from a vendor, claims that the received product is different from the purchased one, demands a refund through eBay's dispute resolution center, and then returns a different product entirely. This scam is effective, because there is no platform intermediary who determines the accuracy of product description during exchange, and because the dispute resolution center can be expected to grant buyer refunds. On the discussion board, users relate their own experiences with delivery scams. Sellers, in particular, bear the economic brunt of these fraudulent designs. After a seller auctioned
off a pack of print cartridges in 2015, the buyer claimed that the cartridges had a terrible smell and demanded a refund. The dispute resolution center sided with the buyer, removed the initial payment from the seller's PayPal account, and instructed the buyer to return the items. When the seller opened the returned box, inside was one print cartridge — from a entirely different printer. Later that year, a new user sold his collection of South Park DVDs, which the buyer claimed were "illegally duplicated copies... not at all authentic or officially licensed". When the seller received the returned box, it was filled with illegal duplicated copies of the South Park DVDs. The eBay subreddit also features accounts of delivery scams. As related in the peripheral discussion board, a user sold a used laptop with a Windows 7 Enterprise operating system. After the buyer claimed the product was damaged, eBay issued a refund upon return of the item. When the seller received the laptop, the operating system "was erased, along with all the software". Another reddit user described a delivery scam that occurred in the midst of Bitcoin's 2017 price inflation: the seller sold a premium graphics card, which a buyer purchased, utilized to mine cryptocurrency for a month, and then returned as defective. eBay granted the return under the Money Back Guarantee and removed the original payment from the account of the seller, who was left with a burnt-out graphics card and no compensation.

Still, eBay's discussion board featured most accounts of high-stakes delivery scams. In one expensive case, a vendor auctioned off a $11,500 Rolex watch, packed and shipped the product, and then received a message from the buyer claiming that the box was empty. eBay's dispute resolution center ultimately ruled in favor of the buyer, leaving the vendor without the watch and without the initial payment. As the incensed vendor explained on the discussion board, "Bottom line is it is incredibly easy to steal
tens of thousands of dollars from sellers on eBay. All you have to say it that it was an empty box." Other vendors reported similar experiences in selling expensive platinum rings, video game consoles, sets of dishes, vintage paper currency, and hardware tools. Regular eBay users recognized the hazards of selling expensive goods on the platform. One seller explained the ease with which buyers could defraud sellers, noting the dysfunctional nature of the platform's feedback system:

Let's say you have a busted toaster. You can go on eBay and buy the same model, brand new, and when the item arrives, you can open a case saying that the item was defective and return your old broken toaster, and now the seller has to refund your money PLUS shipping and give you a new toaster, FREE. No investigation, no nothing. Seller policies mean nothing as long as the buyer rips you off within 30 days. The seller can't even leave negative feedback. This is a license to steal. It has become so unethical, that I am now actively selling on Reverb.

Delivery scams are easy enough to execute and prevalent enough to send this merchant to another exchange platform entirely.

On the other side of the exchange is the fake object scam, which exploits the dispute resolution protocol, the payment protocol, and the profile protocol. In this scheme, a vendor auctions off a product, purposefully sends the wrong object, and then shuts down her account before the product arrives. This is similar to the whitewashing scam on Silk Road, with one important exception: eBay's PayPal system issues a payment to the vendor upon purchase agreement, rather than upon product delivery. Consequently, vendors need not pressure buyers to verify the transaction in order to receive an uncompensated payment. By the time the buyer receives the fake product, the
vendor has left the platform with an uncompensated payment, and the burden of equitable reimbursement falls on the platform itself. The discussion board features many accounts of fraudulent exchange that are alternately comical and disturbing. One buyer purchased a Macintosh computer and received "a certified letter from Jesus" instead. Another user bitterly recalled receiving "a broken item, a rock, a phonebook" in place of purchased products over the years. Several buyers complained about receiving a photograph of the object that they had purchased, rather than the object itself. A new user was relieved to receive a flash drive in good condition, only to realize that the write-only technology couldn't retrieve the data it had stored. One user purchased two bottles of Bio-Oil, a high-end skincare product. The product had a strange smell, so the user took the bottle to her university's chemistry lab, where she discovered that the product "contained a chemical dye that could be damaging to the skin". Bemoaning the "decline" of eBay, another user claimed that "some eighty percent" of the products she had purchased on the platform in recent years were "cheap replicas, wrong colour, damaged, spoilt, and altogether nothing to do with the description".

Counterfeit items are commonly sent to defrauded buyers during fake object scams. On the discussion board, many user complain about receiving pieces of jewelry or technical equipment that are of exceptionally low quality. One user purchased a David Yurman ring and received a compelling counterfeit. By the time she spoke with salespeople at the David Yurman store, the vendor had disappeared from the platform. Another complained about ordering a gold ring with a gemstone, having realized the gemstone was artificial and the gold was thinly plated. Indeed, it was common wisdom on the discussion boards that jewelry was a risky purchase on the site, given the high
market price and relative ease of counterfeit. As already noted, Tiffany & Co. was willing to sue eBay over the presence of knock-offs on the site. Permanently locked smart phones are also common in fake object scams, revealing a link between the underground economy of stolen goods and the online economy of auction sales. In those cases, vendors sell dozens of phones at below-market prices and then leave the platform before buyers realize they have been defrauded.

In certain instances, buyers harass, intimidate, and threaten sellers into sending them additional products or providing them full refunds, exploiting the dispute resolution protocol and leveraging the rating protocol. Regular eBay users refer to this as the bully tactic: order a product, complain about its quality, and then threaten to demand a refund through the dispute resolution protocol, unless the seller sends a supplementary gift. The problem of intimidation is widely deliberated on the discussion board. After auctioning off a flannel shirt, one seller received a threatening message from a buyer, who claimed the fabric was not real flannel and threatened to demand a complete refund unless the seller sent a gift to compensate. "What can I do?" the distraught seller asked on the discussion board. "I feel like I'm being held hostage." The seller ultimately sent an additional shirt in order to placate the buyer and avoid a full refund. A few days later, a user replied to the original post, "Your buyer is using the bully tactic to get a freebie. It usually works on small sellers with good accounts and little experience. They are usually so afraid of getting a dispute that they will give the complainer a freebie to make the problem go away." Abusive language is common during these intimidation schemes. One seller gave his personal phone number to a buyer, only to be left with a hateful message on his answering machine, in which he was called "a f---ing Arab" for allegedly sending
a different product than the one described. Another seller was threatened "with prayers for divine intervention that would result in [her] complete and utter destruction. The words 'fire and brimstone' were actually mentioned." She was not the only seller to receive death threats. One woman received a message from a suspicious buyer with whom she refused to trade, reading, "You'll pay for this, for ignoring and turning away my offers. It won't be long." A longtime seller even left the platform when the "profanity, hate speech, and threats" had become intolerable.

On eBay, economic conflict occurs through the exploitation of digital protocols. In delivery scams, deceptive users manipulate the dispute resolution protocol and the payment protocol in order to acquire goods without a reciprocal payment. Automated, biased, and predictable, these protocols are easy to jockey, unlike conventional economic regulations, which are grounded in contracts and courts. Fake object scams exploit the payment protocol and the profile protocol, as vendors disappear from the platform without economic consequence (contract violation) or social consequence (status injury). Intimidation tactics also leverage the dispute resolution protocol to occasion a one-way value transfer, combining digital tactics of protocol exploit with confidence-scheme tactics of interpersonal pressure. The state is in the background of these economic conflicts, delivering objects through a postal system without serving as a formal regulatory intermediary. By contrast, eBay's corporate structure is in the foreground of these scams, as the publicly traded company orients its protocols to maintain a loyal customer base and an positive balance sheet. Like the black market on Silk Road, the auction market on eBay market is in no state of equilibrium. Digital protocols are poor
proxies for conventional regulations, providing the raw material with which fraudulent schemes are built.

The Social Conceit

Exchange relations on Craigslist are far less fraudulent and deceptive than those on Silk Road and eBay. Still, the presence of fraud and deception on the local market contradicts the platform's cyberlibertarian self-presentation as a casual sphere of cooperative trade. As a free market, Craigslist relies on a series of protocols in place of regulations. Site advertisements are published with a flag protocol, through which users may report posts that appear suspicious.\footnote{\textit{Craigslist}, "Flags and Community Moderation," retrieved March 2017. https://www.craigslist.org/about/help/flags_and_community_moderation.} Advertisements are removed when they accrue a certain number of flags, although that number is not publicly known. Craigslist utilizes an auto-post protocol that prevents the posting of multiple identical advertisements.\footnote{\textit{craigslist. Inc. v. Naturemarket, Inc.} 694 F. Supp. 2d 1039 (N.D. Cal. 2010).} Users who wish to post advertisement are required to complete a profile protocol. This consists of an email verification process, after which Craigslist furnishes a temporary email account through which users can communicate with one another. The platform also maintains a site manual for avoiding scams, which contains tactics for recognizing deception, law enforcement resources, and examples of fraudulent messages.\footnote{\textit{Craigslist}, "Avoiding Scams," About, last accessed 1 December 2017. https://www.craigslist.org/about/scams.} Craigslist users meet in person to conduct commerce, at which point objects and money are exchange.
Problems of fraud, deception, manipulation, and coercion emerge on Craigslist. In such cases, users pursue their economic self-interest through the manipulation of platform protocols. In advanced fee scams, deceptive actors exploit the profile protocol and outmaneuver the auto-post protocol, all while manipulating and coercing the victims of their confidence schemes. These scams also rely on payment technologies and financial institutions that exist outside of the platform, such as wire transfer payments through Western Union. However, the Craigslist interpersonal encounter serves as a failsafe against fraudulent exchange and deceptive communication. In face-to-face commerce, false claims are difficult to uphold, and users cannot rely on platform protocols to defraud and deceive one another. Still, Craigslist is far from self-regulating, and the exchange process is in no state of equilibrium. Fraud occurs through the manipulation of digital protocols, but, once users step outside of those protocols, the likelihood of deception decreases.

The most common form of fraud on Craigslist is the advanced fee scam — a confidence scheme designed to solicit payment without a reciprocal exchange of goods. These are often variations on the now-classic Nigerian 419 email scam: an enthusiastic seller with an elaborate backstory requires immediate payment before sending a valuable or underpriced object. Because these scammers post unique advertisements, rather than a barrage of identical messages, they are able to outmaneuver the auto-post protocol on Craigslist. Once scammers have gained the attention and trust of their victims, they request up-front payment through wire transfer and then disappear without sending the promised good. Here, deceptive actors rely on external financial institutions to enact a
one-way value transfer, and they exploit the profile protocol to leave the platform without consequence.

On the Craigslist discussion board, users relate their various encounters with advanced fee scams, as fraudulent actors aim to convince users to wire money in exchange for a variety of goods and services: housing rentals, real estate, cars, bicycles, sex, firearms, and job opportunities. One San Francisco user received a fairly typical scam email while looking for a housing rental in 2011. The email read, in part,

I am the owner of the place you want to rent and also want you to know that it was due to my transfer that makes me and my husband to leave the house and also want to give it out for rent and looking for a responsible person that can take very good care of it, as we are not after the money for the rent but to be clean at all time and the person that will rent it have to take absolute good care of it as if it were its own. I and my Husband came over to Africa for a missionary work, so i [sic] hope you will promise us to take very good care of the house. So get back to me on how you could take care of our house or perhaps experience you have in renting home. Hope you are okay with the price of US$1,300 (1 months first payment) with internet, gas, water, microwave, hydro, heat laundry facilities, air condition and so on. I am looking forward hearing from you ASAP so that we can proceed. Feel free to fill in the rent application form below so we can proceed asap.

This message combines a variety of common scam tactics: an attractive object (the cheap rental), an exceptional circumstance (the owner is out of the country and not interested in profits), a sympathetic figure (the missionary worker couple), and a request for financial
information (the rent application). As a paradigmatic confidence scheme, this email plays on the vices of the human psyche — opportunistic greed for a cheap rental and emotional benevolence toward a devoted couple.

Rare and forbidden items regularly serve as bait during advanced fee scams — a circumstance noted by many discussion board users, some of whom express anger over the anarchic state of the local market. For instance, users report suspicious advertisements for adopted children and nanny jobs, sports memorabilia and antiques, and vintage cars and motorcycle parts. They also note the presence of forbidden items, which are formally banned in the platform's terms of use, and which sometimes appear to be fraudulent offers. One Vancouver user reported advertisements for "hookers, drugs, guns, other prohibited weapons, sperm, pet breeding ads, overpriced pets... fireworks, tobacco, alcohol, bootleggers, fake ID, counterfeit goods, just to name a few". Beyond rare and forbidden items, Craigslist users on the discussion board widely recognize the presence of advanced fee scams on the platform, variously referring to the site as "a cesspool of deceit and thievery", "a tragedy of the commons", "a sewer of overposting and scam ads", "a nest for vipers", and "a free-for-all flea market for the mindless and criminal elements of the internet".

Scams are far less common when Craigslist users meet in person. The house of cards of interpersonal deception often collapses when computer-mediated communication gives way to material encounters. Several discussion board threads center on occasions when scammers failed to their enact fraudulent schemes. Users who are angered by scammers take particular pleasure in hearing stories of their botched plans. When a DC woman posted a missed connection in 2011, she was thrilled when the man responded.
She was less thrilled when she met him in person: he was not the handsome man she had fleetingly encountered, but he did offer her a job smuggling drugs into the country. In 2012, a Manhattanite traveled to Brooklyn to purchase an ergonomic office chair, which promptly collapsed upon use. The seller then accused the prospective buyer of breaking the chair and demanded immediate payment. True to form, the Manhattanite told the seller "to go fuck himself". A Florida man purchased an engine for his 240SX in 2013, only to discover that the a cylinder rod bear was "blown to oblivion" and the engine was essentially "a giant paper weight". A Tokyo user met with a seller to purchase a refrigerator and washer, described as "in excellent condition". The transaction did not transpire: the refrigerator was filled with worms, "yes, small red worms", and the washer secreted "long, stinky, black liquid". In the next chapter, we'll consider how the state makes an appearance during these interpersonal encounters. For now, let's note that face-to-face exchange occurs outside of platform protocols — those mechanisms of fraud and deception in the digital free market.

On Craigslist, fraud, deception, manipulation, and coercion occur through the exploitation of platform protocols. In advanced fee scams, users exploit the profile protocol to defraud and deceive their victims without economic and social consequence; they evade the auto-post protocol by posting singular advertisements; and they relay financial institutions and wire technologies, external to the platform, in order to collect payment at a distance. This dance of exploit, evasion, and externalization would be unthinkable in context of economic contracts, status codes, and known identities. Unlike Silk Road and eBay, Craigslist commerce features an interpersonal encounter. When digital protocols give way to face-to-face agreements, the likelihood of fraud and
deception generally decreases. This underlines, through contrast, the importance of protocols to fraudulent behavior in the digital free market, without which deception is a matter of rhetorical skill rather than automated exploit. Host to a wide spectrum of exchange relations, Craigslist is not the self-regulating platform imagined by cyberlibertarianism, and its digital protocols end up being the vulnerable points of its electronic commerce system.

Invisible Hand All The Way Down

As venues of fraud, deception, manipulation, and coercion, internet markets are far from self-regulating centers of economic activity. They embody the *laissez faire* principles celebrated by cyberlibertarianism, yet they deliver entirely different results than those predicted by the digital ideology. Fraud undermines the narrative of economic equilibrium, as does the presence of state, commercial, and financial institutions in exchange. On internet markets, fraud and deception occur through the manipulation of platform protocols designed to replace regulations. Not only are automated protocols poor proxies for conventional regulations; but protocols end up furnishing the very forms of economic conflict that regulations are supposed to mitigate. In short, protocols can backfire. This state of affairs has broader consequences for understanding cyberlibertarianism, electronic commerce, and digital free markets.

Cyberlibertarianism and electronic reputation studies share a vision of internet exchange as fundamentally cooperative. The dream of a self-regulating internet finds a natural counterpart in the dream of a fully automated internet market. Lovely are these dreams, in which the cumbersome realities of contract, court, status, and community give
way to the streamlined protocols of payment, dispute, rating, and profile. The cooperative bias of these paradigms underwrites a faith in automated mechanisms, despite their significant flaws, and an animosity toward institutional bodies, despite their oblique appearances. Indeed, if internet exchange is integrally cooperative, and if internet platforms are basically self-regulating, then internet exchange platforms may be automated and let loose without regulatory oversight or institutional interference. Eric Goldman's insistence on an invisible hand "all the way down" — according to which the conflictual dimension of exchange can always be alleviated by a supplementary rating protocol — evinces an attachment to cooperation as a foundational principle of the digital market. This account, in particular, overlooks the ways that rating protocols can become mechanisms of user extortion, underwriting economic conflict rather than mitigating it. The reproduction of cyberlibertarian assumptions in this scholarly account attests the appeal of the digital ideology in broad conversations surrounding technology. It is not only motivated actors who yearn to see internet exchange as basically self-regulating; it is also scholarly observers.

Internet market companies also fail to account for the role of conflict in electronic commerce. In casting their platforms as self-regulating, Craigslist, eBay, and Silk Road underplay the reality of regulatory breakdown in the digital free market, as well as the vulnerability of the digital protocols at the heart of their electronic systems. Insofar as they position themselves as neutral internet venues (Gillespie) marked by peer-to-peer agreement (Scholz) and voluntary participation (van Dijk and Nieborg), these internet market companies side-step debates over platform accountability, even as they are regularly accountable to state and commercial institutions. The paradoxes of
cyberlibertarianism are on display here. Internet market companies insist on freedom from state regulations, yet they cooperate with state directives; and they insist on a free digital market in perpetual equilibrium, yet they install protocols to prevent instability. They want to have their regulatory cake and eat it too.

As sites of economic conflict, Craigslist, eBay, and Silk Road demonstrate that the internet does not obviate critiques of the free market but makes those critiques all the more poignant. As Kojin Karatani and Michael Aglietta argue, economic and social regulations stabilize competitive capitalist exchange. Internet markets dramatize these arguments by playing host to forms of economic conflict in the conspicuous absence of regulations. Part of this drama is the absence of stable identities on internet markets — the kind of identities that are necessary for conventional regulations to be effective. Internet markets show us what happens when anonymous and self-interested actors engage in unregulated electronic commerce. They are objectified counterproofs to the cyberlibertarian notion that a less regulated internet is a better internet. They are also objectified counterproofs to idea that automation can comprehensively eliminate conflict in the context of electronic commerce. On internet markets, protocols are designed to replace regulations, but without the jurisdictional authority that gives regulations their power. These protocols can hardly be expected to perform the regulatory functions of courts and communities, which are complex formations that cannot be easily automated or reduced to an algorithm. In the absence of conventional regulations, and in the presence of digital protocols designed to replace them, it is scandalously easy to get away with internet fraud.
CHAPTER 2
ROADS TO COMMERCE
DEVELOPING SOCIAL CUSTOMS

On internet markets, actors take steps to mitigate concerns of fraud and control the commercial process. Notably, users develop social customs that rely on website infrastructure, platform culture, and state institutions. Although internet markets are supposed to be self-contained, digital trade implicates factors that are external to electronic commerce. Website infrastructure, platform culture, and state institutions enter the exchange process in ways contrary to the assumptions of cyberlibertarianism. As informal commercial practices, social customs help us understand how cooperative exchange occurs in the digital free market.

Custom and Control

Social customs are loose sets of practices oriented toward a general purpose. They are one way of controlling the commercial process in the absence of regulations. In "The Comedy of the Commons", Carol Rose argues that social customs are relatively effective ways of managing the behavior of actors, without regulations or regulatory institutions.\footnote{152} In the nineteenth century, Rose notes, thoroughfares and waterways were organized through customary "rules of the road", which served as "informal techniques" for managing transportation infrastructure.\footnote{153} These were voluntary strategies by which

\footnote{152} Carol Rose, "The Comedy of the Commons: Custom, Commerce, and Inherently Public Property," \textit{The University of Chicago Law Review} 53, no. 3 (Summer 1986): 711-781.  
\footnote{153} Rose, "The Comedy of the Commons," 744.
travelers abided in the absence of regulations, terms of use *avant le lettre*. Through social customs, the commercial public "ordered its affairs authoritatively" — without a centralized authority enforcing regulatory controls. Insofar as roads and waterways underwrote the movement of goods to and from the market, social customs facilitated economic exchange. And they did so without exclusion or penalty, as travelers of all stripes were welcome on roads to commerce. One of Rose's central arguments is that the sphere of commerce benefited from unbounded access to transportation infrastructure, made possible by social customs. As Rose puts the matter: "The more people who engage in trade, the greater the opportunities for all to make valuable exchanges; and the more exchanges, the greater the opportunities for division of labor and the attendant increase in wealth and productivity that Adam Smith told us about." Here, social customs underwrite economic activity through common access.

Social customs are also a way of controlling internet exchange in the absence of regulations. Writing from a legal perspective, Trotter Hardy asks how one establishes rules among internet users who "do not have prior contracts, by-laws, or other agreements". He notes that one possibility for the regulation of online conduct is social customs. Social customs on the internet parallel historical merchant laws, or *lex mercatoria*, which were "sets of customary practices that inured to the benefit of merchants" and governed exchange relations in the Medieval Europe across legal jurisdictions. Like merchant laws, social customs develop among interested parties.

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154 Rose, "The Comedy of the Commons," 742.
157 Hardy, "The Proper Legal Regime of Cyberspace," 1020.
without "statute or other authoritative pronouncement." Hardy furthermore notes that merchant laws were grounded in merchant courts. These alternative institutions arbitrated trader disputes, and "their judges were drawn from the ranks of the merchant class itself on the basis of experience and seniority." Similarly, Hardy argues, internet customs are grounded in discussion groups, email, and other spheres of free association online. For Hardy, these are "informal court systems," where interested parties may resolve disputes through customary rules in a common language. Drawing on Hardy's work, David R. Johnson and David G. Post point to social customs on the internet as evidence of the "self-regulatory efforts of cyberspace participants." Here, social customs are ways of controlling internet exchange, enacted by users themselves.

Some see internet exchange as comprehensively economic, even in the presence of social customs. In her influential theory of free labor, Tiziana Terranova argues that internet exchange is properly economic, because the collective labor of internet users is central to the maintenance of digital technology. For instance, social media users "keep a site alive through their labor, the cumulative hours of accessing the site (thus generating advertising), writing messages, participating in conversations, and sometimes making the

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158 Hardy, The Proper Legal Regime of Cyberspace," 1020.
159 Hardy, The Proper Legal Regime of Cyberspace," 1021.
160 Hardy, The Proper Legal Regime of Cyberspace," 1021.
jump to collaborators”

Unlike thinkers in the anarchist tradition, she argues that the social and communal quality of internet exchange is not so discrete from its economic and capitalist quality. Technology companies, for example, regularly capitalize on the collective labor of the open source software community, which can debug and improve its products without monetary compensation. For Terranova, the open source software community demonstrates "the overreliance of the digital economy as such on free labor, both in the sense of not financially rewarded and freely given". The open source software community may have an anarchist sensibility, but its products are central to the business plans of privately owned technology firms. In this respect, Terranova sees social exchange on the internet as internal to the capitalist economy, insofar as social exchange is consistently monetized by platforms. For Terranova, internet exchange is comprehensively economic, because "it is technically impossible to separate neatly the digital economy of the Net from the larger network economy of late capitalism". In this context, where Eric Goldman sees an invisible hand "all the way down", Terranova sees economic relations "all the way down".

Exchange Customs

On internet markets, users mitigate concerns of fraud and control the commercial process by developing social customs that rely on website infrastructure, platform

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culture, and state institutions. On Silk Road, users formulated social customs related to vendor profiles, discussion boards, libertarian cultures, outlaw sensibilities, and state surveillance mechanisms. eBay users develop sets of social customs that depend on message functionalities, auction pages, dispute resolution centers, and auction cultures. On Craigslist, email relays, local cultures, and local law enforcement bodies inform the development of social customs. This means that internet markets are not the self-contained islands of cyberlibertarianism, nor the purely economic realms of free labor. Rather, digital exchange involves factors — infrastructural, cultural, and institutional — that are formally external to the internet economy. The road to commerce is long and winding.

Thick As Thieves

To mitigate concerns of fraud and control the commercial process, Silk Road users developed social customs related to website infrastructure, platform culture, and state institutions. Users utilized website infrastructure to locate reliable merchants — searching vendor profiles for timestamps, evaluating trading partners through logistical conversations, and listing deceptive vendors on the platform discussion board. The libertarian, drug-enthusiast, and cyberoutlaw culture of Silk Road also influenced the social customs developed by users, marking longstanding members as trustworthy trading partners. The abeyant presence of state power Silk Road not only underwrote a culture of libertarian solidarity; it also informed the customs, developed by merchants, to evade state detection on the internet on the internet and on the ground. Unlike eBay and Craigslist, Silk Road as a platform did not respond to these social customs, likely because
the site was consistently profitable, because its tenure was relatively brief, and because Ulbricht was evidently occupied with other site-related matters. This means that users were free agents in the free digital market, and their social customs were particularly important avenues to fair exchange. This also means that Silk Road was not a self-contained island but an vast archipelago that covered infrastructural, cultural, and institutional waters.

On the discussion board, Silk Road users formulated a variety of social customs. Many of these customs concerned the location of honorable vendors, or sellers that would honor trade agreements and avoid fraudulent behavior. The platform's Buyer Guide offered few strategies for navigating the world of vendors, only an assurance that the escrow protocol was designed "to prevent fraud on both the end of the seller and the buyer". Users consequently developed a series of social customs to evaluate vendor reliability. One custom relied on website infrastructure in the form of the rating protocol, but not in the way envisioned by cyberlibertarianism or electronic reputation studies.

Users were to identify the length of time for which a potential vendor had been conducting commerce on the platform. Users could determine the date at which merchants started selling on the platform, by scrolling through customer ratings and finding the date of the earliest feedback. As seasoned explained on the discussion board, these timestamps were valuable proxies of merchant reliability: the longer the history, the more trustworthy the merchant. This rule of thumb was partially grounded in the platform's libertarian culture, which cast trade as an inherently egalitarian deed and Silk

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167 See the discussion of Ulbricht and his federal trial in chapter 1.
Road as a liberated outlaw economy. The political investment in Silk Road meant that longstanding members were likely to engage in cooperative commerce on principle, as acts of cooperation set against a coercive state. For instance, in response to discussion board questions from a new buyer, a longstanding user advised all merchants to "read the vendor info page to get a sense of their history" rather than "exclusively trust Silk Road vendor reviews". Here, social customs reflected the commercial infrastructure of time stamps and the platform culture of veteran traders. Users took seriously the possibility of fraud and developed exchange customs that did not rely on good faith agreement or free market equilibria.

As a consequence of this social custom, experienced vendors constituted a *de facto* merchant elite, described by one discussion board users as "an old guard who has been here since the beginning". These merchants generated social capital on the platform through an enduring engagement with the dark web marketplace, and this allowed them to generate economic capital, in turn. Silk Road witnessed the emergence of an informal vendor hierarchy, of which sellers and buyers took notice. On the discussion board, a new vendor complained about the difficulty of customer acquisition: "Unless you have a long-established, respected, prior customer base to vouch for you, buyers just never know". One buyer felt torn between the desire for new products and the assurances of established vendors. "As much as I like to try out new vendors and their wares," the buyer explained, "I'm almost to the point where I say fuck it and deal exclusively with the trusted vendors I've established a relationship with. The only downside to that is I love to try new things. Although knowing the transaction will be smooth as silk is a good feeling." Another user was willing to sacrifice product variety for reliable commerce, exclusively conducting
exchange with a "tight group of highly trusted vendors" that had been on the platform since its early days.

Another social custom was to evaluate potential vendors through private conversations on the website's internal message infrastructure. According to discussion board posters, trustworthy vendors were generally willing to go into detail about their products, delivery plans, and commercial standards. One user articulated the metric of vendor evaluation in question form: did the seller seem willing "do anything they can to keep the customer happy", or were they "vague, weird, and noncommittal" when asked questions about their commercial practices? Platform culture played a role in this evaluation custom. Libertarians took trade seriously and could be expected to elaborate on their commercial process, and drug enthusiasts took substances seriously and could be expected to elaborate on their contraband wares. By contrast, fraudulent vendors could be expected to evade major questions and hard-sell their goods. As one user put it on the discussion board, deceptive vendors "pressure you into buying asap" by insisting "'I'm almost out" of whatever the buyer seeks to purchase. Deceptive vendors would also offer elaborate stories to justify exchange practices that were forbidden in the platform guidelines, such as paying vendors outside of platform escrow. One discussion board user summarized this evaluation custom succinctly: "The more bizarre the story... the more likely it's bullshit."

These evaluation customs were effectively formalized when one user took advantage of website infrastructure and posted a list of scamming vendors on the site discussion board. Merchants could check the list before purchasing from a certain vendor, effectively crowdsourcing interpersonal vendor assessment. For many users, the list
represented the community's cooperative response to the problem of internet fraud, an act of solidarity among cyberoutlaws. In response to the list, one discussion board participant wrote, "Thanks for the hard work... we as a community need to be aware of the asshats that are out there." The discussion board thread that hosted the list subsequently served as a sounding board for evaluation customs. When a discussion board participant speculated that the vendor 18kt was a scammer, another user responded, "I don't agree that 18kt is a scammer himself: too much evidence that he is actually proud of this site, and likes being on the libertarian forefront. He's like an underground hero, and if his site turns into just another burn joint, it would distress him." In this cultural assessment, the vendor's history on the platform and his commitment to libertarianism made him a trustworthy seller. By contrast, suspicious behavior was a potential sign of fraudulent intent. On the same thread, another user noted that the vendor Professortwak was "behaving strangely. Logging on but not communicating with outstanding customers". In the spirit of cooperation, the user added, "I'm sorry to be adding this if unfounded, but there is a serious lack of communication on the sellers part [and] I don't want to see innocent buyers for [whom] Finalizing Early is a necessity getting mugged. I will fully revoke all inflammatory/negative comments if communications from this seller begin again." The concerned user provided an update on the discussion board thread the next day: "OK, this vendor has begun to communicate again, he may well have been having some logistical/data handling issues at the end. Still be wary, but this is not a confirmed Scammer and thus so his name should not be tarnished. However, as always. Exercise caution." Two weeks later, the user provided a final appraisal on the discussion board thread, writing,
Just to confirm. The Professor came through. He maintained communications, provided me with a tracking number and even doubled my original order to make up for the delay. I received my order 7 working days to the UK after he provided the shipping details. I think he is a genuine good guy, just had some bad luck/logistical issues at his end, which he is working hard to rectify. I hereby revoke any negative comments previously posted.

Evident in this elaborate appraisal is a principled respect for commerce that attended Silk Road's libertarian culture. In this culture, a merchant's honor was not something to be casually besmirched, given the importance of long-standing membership in the digital black market.

The state was not only a common enemy that informed Silk Road's cyberoutlaw culture. It was also an institution with surveillance abilities and prosecutorial powers — both of which needed to be avoided by black market participants. Silk Road vendors developed social customs to avoid state detection, and these strategies were designed to control the commercial process, albeit to avoid state detection rather than economic fraud. The logistics of the drug trade garnered a great deal of attention on the discussion board. Buyers and sellers alike would crowd-source contraband delivery strategies: how to take drugs on a plane, in a car across the US, on a train in Europe. Packaging and shipping were topics of great debate, as merchants spoke with their peers about delivery methods that could evade customs detection. One user suggested that cocaine sellers place their products "inside a snap lock smell proof bag, crushed flat and wrapped again in lavender scented tissue paper and mailed in a greeting card". Merchants offered a plethora of tactics for shipping contraband within the United States and across
international borders, including hand-writing addresses and padding envelopes "by tri-folding a few sheets of paper and taping the product to one of the sheets". Several suggested decoy objects as a means of evading the watchful eye of customs: sealed tampon boxes, potato chip bags, candy wrappers. One user reported receiving his cocaine in a sealed Skittles bag. There was a substantive debate over how to check the delivery status of mailed goods. When one user suggested tracking the Digital Customer Notification (DCN) attached to packages, another user responded forcefully:

Don't check your DCN from Tor NOT MATTER what. The post office can tell when DCN info for a particular package has been access through a Tor browser. Though the post office can't track where you accessed the info from they can tell the type of anonymous browser and that is a red flag. The post office will then pay particular attention to your package because they know a person who does not want to be known access the DCN info. Access the info from an internet cafe.

Another user contested this claim, stating that "nobody has ever provided concrete evidence that the USPS [United States Postal Service] can even tell Tour is being used to track packages. Do not believe this bullshit." The original commenter cheekily defended his insider knowledge: "this is not a crypto-cyber-international-drug-smuggling-punk urban legend, we have been told this by people who work in the postal services industry".

Social customs related to privacy strategies were also major points of debate on the discussion board, and users exchanged their experiences with different anonymizing services. In response to a discussion board question, merchants discussed Tor-supported email services, including safe-mail.net and i2pmail, which added another layer of anonymity on top of Tor relays. They also distinguished between degrees of online
anonymity and noted the limits of Tor concealment. One user explained the relationship between the federal government and Tor, writing, "Also well known that the feds operate large capacity exit nodes on Tor. The more they operate, and if they operate internal relays (sure they do) the easier it is for them to correlate traffic." A related thread centered on the best places for off-shore hosting of dark web sites, the consensus being Ukraine or Russia. After someone asked the community "Which Security Setup Is Best?", users offered explanations of Tails and PGP for anonymous internet navigation; Debian and Ubuntu for disk encryption; CC cleaner, Secure Remove, File Shredder for disk deletion; and Windows versus Linux versus OpenBSD for secure operating systems. Another asked which burner phones were the most secure for drug dealing, which sparked a debate on the strength of Android encryption. Stash spots were also widely debated, from credit union safety deposit boxes to secure compartments inside walls. Hundreds of posts centered on Bitcoin logistics: where to buy and store Bitcoin, how to convert Bitcoin into dollars, and which wallets and institutions monitored the cryptocurrency most carefully. Silk Road users carefully followed the 2012 Congressional Treasury Committee debates over the property status of Bitcoin, offering libertarian commentary on the public proceedings.

On Silk Road, users developed social customs that were not only economic but also infrastructural, cultural, and institutional. Website infrastructure did not automate the commercial process, as cyberlibertarianism would expect, but offered informal opportunities to evaluate trading partners. In particular, the rating protocol was not a proxy of status but a series of traces to be "read" by users in their search for fair exchange. Platform culture turned out to be a relatively dependable way of predicting
vendor behavior, even more so than the rating protocol designed to fill that exact function. In addition to playing a role in extortion schemes, the abeyant state also played a role in the social customs of users, serving as a common enemy in the platform's libertarian culture and informing the commercial practices of digital contraband trade. The digital black market was not an isolated libertarian economy but an embedded economic system that implicated infrastructures, cultures, and institutions. Social customs were a way of controlling the commercial process in the conspicuous absence of regulations, in the potential presence of deceptive merchants, and in the looming surveillance of state institutions. A winding road to commerce indeed.

Antiques Roadmap

eBay users also develop social customs to control the commercial process. These customs leverage website infrastructure and platform culture in ways contrary to cyberlibertarianism. In order to avoid deceptive merchants, users mark certain practices as signs of potential fraud. For example, lucrative offers that take place outside of eBay infrastructure may signal a merchant's desire to step outside platform jurisdiction and enact fraudulent exchange. Users analyze merchant advertisements for signs of expertise, jockeying the website infrastructure of auction pages and the platform culture of object knowledge to ensure the legitimacy of prospective trading partners. They also analyze merchant history, embedded in user profiles, in order to determine if an account has been hacked, an increasingly common phenomenon in recent years. In cases when merchants have already been defrauded, users develop customs to minimize commercial damage through a careful engagement with the dispute resolution protocol. As a platform, eBay
sometimes enters the drama of social customs by formalizing them in infrastructure or policy. Not state institutions but corporate institutions enter the exchange process in this way, creating a tentative feedback loop between user and platform. In all of these cases, the auction market is far from a self-contained island of economy activity. Rather, digital exchange on the platform implicates factors that are infrastructural, cultural, and institutional.

As on Silk Road, social customs on eBay often concern the selection of honorable vendors. On the discussion board, eBay users note that certain practices are often signs of fraudulent intent. For example, according to seasoned users, fraudulent merchants sometimes make lucrative offers to vendors who post expensive items or to buyers who bid on them — but in private messages outside of the eBay auction infrastructure. These offers usually culminate in a delivery scam, in which a vendor sends an item but ultimately receives no reciprocal payment, or fake object scams, in which a buyer sends a payment but does not receive the advertised object.169 The evasion of eBay's commercial infrastructure is meant to limit platform jurisdiction during the inevitable dispute: if merchants conduct a private transaction without eBay exchange protocols, then the platform has no authority over the exchange and no responsibility for its resolution. Of course, eBay disavows any responsibility for fraudulent commerce in its user agreements, even if merchants utilize platform exchange protocols, making interpersonal trade a double-whammy of platform immunity.170 Platform guidelines formally forbid members "to contact each other to buy or sell items outside of eBay" and warns that violators may

169 See the discussion of eBay scams in chapter 1.
be subject to account suspension. Nevertheless, likely in response to the problem, eBay briefly featured a Private Offer function, which allowed merchants to conclude auctions in order to accept private offers, provided those offers were realized in platform payment protocols. The function came and left in 2016, exemplifying a provisional feedback loop between user and platform in a major internet market. In the case of private offers, a social custom emerged in response to commercial infrastructure and platform guidelines. The platform then attempted to make the custom unnecessary by incorporating private offers into site infrastructure, thereby monetizing the interpersonal transactions against which users warned.

Another social custom relies on the website infrastructure of profile protocols and rating protocols, but not in the ways predicted by electronic reputation studies. On the discussion board, users note that rating is not always a reliable metric of vendor honor, but a complete absence of feedback marks a profile as suspicious; a merchant without history on the platform has nothing to lose during a confidence scheme. Like Silk Road users, eBay merchants generally distrust the rating system but trust the infrastructural traces that the system leaves behind; and they tend to view platform longevity as an imperfect proxy of commercial honor. Platform culture indirectly underwrites the importance of longevity, as eBay's long internet history comes with veteran merchants who respect exchange relations on the platform. In particular, antique culture on the platform values commercial expertise and, by extension, the commercial experience necessary to possess that expertise. Whatever their wares, merchants with economic and

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cultural investments in the auction market are more likely to engage in cooperative commerce. When a buyer on the discussion posted a story about being defrauded, a seasoned user replied, "This is the type of thing that we see all the time. Buyer comes here and is upset that a transaction went bad. Then we find out it was a transaction with a zero-feedback, brand new seller..." Another buyer realized independently that purchasing a bike from a new seller had been a bad idea. As related in a discussion board post, the bike had been offered "at a price that was too good to be true, from a seller with no feedback". When the package for the bike arrived, it was an empty envelope.

In another social custom, eBay users leverage website infrastructure and platform culture when they analyze auction pages for signs of confusion or inexperience. Auction pages, according to this custom, should generally exhibit expertise about the commodity and familiarity about its market. Part of the exhibition of expertise is the ability to communicate in clear and technical terms about an object. This includes the ability to speak in relatively clear English — a standard inflected through the stereotype of Nigerian scammers, the anxiety surrounding the rise of Chinese sellers on the site, and the generalized xenophobia of Western culture. In 2017, a new seller received a message that combined the signs of potential fraud covered so far: a lucrative offer, a private transaction, a blank profile, and an inability to speak intelligibly about a product. The seller posted the message on the discussion board:

I will like to offer you $400.00 for the Vintage Fostex x15 4 Track recorder. If my offer is been accepted the payment will be made through check. I will send the check via mail and my mover will only come over for pick up when you notify

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172 See the discussion of Chinese sellers on eBay in chapter 3.
me that the check has been verified and cleared by your bank. Paying with check will be easier for me on this transaction i haven't get chance to fund my PayPal account recently due to the nature of my work here in Seattle and i really need to buy this item for my business associate. Also due to the nature of my work i don't have time to check my eBay messages.

The discussion board post prompted another user to explain why the sender of the message should not be trusted. "It has so many scam markers," the user explained, "offering more money than it's listed for, asking for your phone number for text messages, vagueness — 'the nature of my work', can't check eBay messages". In eBay parlance, "scam markers" are signs of potential fraud that distinguish certain practices as suspicious. This jumbled message dramatically displays these scam markers and serves as an object lesson for less experienced users.

Another social custom relies on the website infrastructure of profile protocols, but not in the way anticipated by cyberlibertarianism. This custom concerns the identification of hacked accounts, which are hijacked for the purpose of executing low-risk confidence schemes. eBay accounts are not particularly difficult to hack, because username and password are the only barriers to account access. However, as users point out, there are relatively clear signs that an account has been compromised. Hacked accounts are usually inactive for years and then suddenly hyperactive, making gaps and fluctuations in user activity — which are visible in the profile protocol — potential marks of fraudulent intent. On the discussion board, an experienced merchant listed the signs of a hacked account for users new to the platform: "An account over 3 years old. Few if any feedback as a seller, over a year old. Their buying feedback except for 2-3 recent feedback is all
over a year old." Another user added: hackers often post "too good to be true item listings" that "sell out in under 4 hours". This helps hackers execute whitewashing schemes quickly and reliably: once the auctions close, hackers accept multiple payments in exchange for the listed goods, transfer the payments from a PayPal account to a private bank account, and then leave the platform without sending the purchased goods.

A related social custom concerns the platform culture of commodities. Criminal market logic means that expensive and in-demand products are highly attractive to hackers, who want to maximize the payments they receive prior to exiting the platform. On the discussion board, users referred to these in-demand products as "scam items": electronics, including smart phones and laptops; luxury items, such as bags and accessories; and rare goods, such as collectibles and vintage objects. In particular, according to users, smart phones are exemplary magnets for fraudulent exchange, "because they are small, there is huge demand, and they are relatively valuable". Hackers might auction off ten cell phones, sell them at $300 a piece, and then leave the platform with a $3000 in profits before buyers realized that they had been defrauded. In 2017, eBay instituted a new policy—one neither named nor mentioned in platform guidelines—to cancel transactions conducted by hacked accounts. Black-boxed is eBay's determination procedure for hacked accounts, but an eBay merchant who I interviewed related the following account. After auctioning off an item, this merchant received an email with a subject line, "Unauthorized use of buyer account — Transaction(s) cancelled". The email read:

We’re writing to let you know that we had to cancel the following transaction(s) because the item(s) were purchased without the account owner's permission...
you already sent the item(s) and they haven’t been delivered yet, please contact your shipping carrier to find out if you can stop the shipment.

This merchant speculated that Russians had hacked the account, reflecting contemporary anxieties surrounding Russian information warfare. That eBay is a corporate institution likely played a role in its decision to monitor hacked account: the corporation may be eager to avoid the public relations debacle that accompanies press reports of platform infiltration. In the case of hacked accounts, social customs became formalized in website policy, creating a feedback loop between users and platforms (and, perhaps, institutional dynamics).

eBay merchants sometimes complete a transaction before realizing they have been defrauded. In those cases, users develop social customs related to website infrastructure in order to minimize commercial damage. Because users often come to the discussion board in such moments, the arena of user debate is filled with strategies for negotiating the dispute resolution protocol. According to one custom, the best way to deal with a fraudulent buyer is to offer a partial refund on the object that they claim is "not as described". The partial refund is a way to minimize the inevitable monetary losses associated with the scam. Buyers have the upper hand in trade disputes,173 and the partial refund decisively concludes those disputes and prevents the exchange from becoming a one-way value transfer. This also forestalls any hostile encounters with buyers. eBay's platform culture has a conflictual dimension, not just haggling and sniping but harassing and coercing.174 Partial refunds offer a trap-door out of heated interactions with buyers.

173 See the discussion of eBay's dispute resolution protocol in chapter 1.  
174 See the discussion of harassment and coercion on eBay in chapter 1.
As one user explained on the discussion board, vendors should offer "no explanations, no defending yourself, ONLY the same answer": a partial refund. On the eBay subreddit, a dedicated seller went so far as to create a decision tree that informed vendors how to handle the dispute resolution protocol in cases of delivery scams. The opening question — "What reason did the buyer select for the return? — branches out to a series of actions designed to minimize commercial damage. For instance, if the vendor suspects a fraudulent return, the decision tree suggests that the vendor message the buyer and "ask leading questions to see if the customer will admit to buyer remorse or altering the product". The admission may then become leverage during the dispute resolution process. This social custom allows users to control a commercial process that has become unruly. This is particularly helpful in the case of delivery scams executed against vendors, who must navigate a dispute resolution protocol that is decisively biased against them.

On eBay, users social customs develop social customs to mitigate concerns of fraud and control the commercial process. These social custom relate to platform culture and website infrastructure, including infrastructural protocols, but in different ways than imagined by cyberlibertarianism. A lucrative offer outside of eBay's infrastructure is a potential sign of fraudulent intent, as is a failure to conform to the platform culture of object expertise. Users determine if an account has been hacked through the traces left by the profile protocol, and eBay, as corporate institution, quietly enters the drama of criminal infiltration by detecting hacked accounts and notifying users accordingly. In cases when fraudulent exchange has already occurred, users take steps to control the final stages of the commercial process through social customs related to the dispute resolution protocol. These social customs are infrastructural, cultural, and (sometimes) institutional,
extending well beyond the properly economic. eBay is not an autonomous sphere of exchange but an embedded arena of economic activity, which implicates infrastructures, cultures, and institutions.

Like A Good Neighbor

Craigslist users also develop social customs to avoid fraudulent exchange and control the commercial process. These customs interface with website infrastructure, platform culture, and state institutions. The state enters the exchange process most visibly on Craigslist, compared to Silk Road and eBay, as users rely on local police stations to ensure personal safety during face-to-face encounters. The website infrastructure of advertisement solicitation and the platform culture of local commerce informs another social custom, according to which merchants should conduct exchange in cash rather than wire payment. Users respond to the website infrastructure of open exchange by formulating social customs related to general market acumen. In all of these cases, social customs help users manage local exchange, and they involve infrastructures, cultures, and institutions that are beyond the economic as such. Craigslist is not an isolated sphere of commercial activity but an entrenched arena of economic exchange that is infrastructural, cultural, and institutional. Good fences might make good neighbors, but low fences make good merchants.

A key social custom on Craigslist is to meet in person to conduct a transaction. First and foremost, this custom is related to website infrastructure, which is designed to furnish advertisements and connect merchants, but not to facilitate payment or delivery. The interpersonal encounter helps mitigate concerns of fraud by reducing the ability of
merchants to deceive their trading partners through digital protocols. At the same time, the interpersonal comes with the risk of physical harm, unevenly distributed across social categories, including gender. In response to this risk, as related in discussion board conversations, Craigslist users adopt the social custom of meeting their prospective trading partners in a public place: a city square, a parking lot, or a local business. Craigslist formalizes this policy in its official guidelines for avoiding scams. While the precise language has shifted over the past decade, the guideline reads, "Deal locally, face-to-face — follow this one rule and avoid 99% of scam attempts."

Some users build on this foundational social custom by involving state institutions in the interpersonal encounter. In particular, women take steps to ensure their safety during face-to-face transactions. On the Craigslist subreddit, women users related a social custom of meeting prospective trading partners in front of a local police station or in a public setting. In 2017, a woman asked the Craigslist subreddit where "a female on Craigslist" should meet a prospective buyer, and users of both genders proposed a local police station in response. One woman suggested that the entire transaction be conducted in an open public setting, explaining, "I always meet inside a Starbucks. I get there early, order a coffee, and lug whatever I'm selling inside. Don't help them carry it to their car; If you can carry it in by yourself then they can handle it on their own. This is a very public transaction and definitely puts you in a stronger position if they are shady." For this user, the risk of a suspicious or "shady" merchant informed the practices of exchange. When a

presumptively male user asked, "What does your gender have to do with anything?" the woman responsible for the post foregrounded the material dimension of interpersonal exchange: "Well, I am much smaller than a dude I guess. About 90 lbs? I guess thinking about it, if shit went down, I suppose it wouldn't matter. But I still don't have the physical heft." When I interviewed a Los Angeles woman in her 20s, she explained that she took her safety seriously during interpersonal encounters by bringing pepper spray and "a friend or someone just to be on the safe side".

Still, for those without chemical agents or trusted confidantes, the local police station is a trusted venue for the interpersonal encounter. When a user on the Craigslist subreddit asked how to handle a face-to-face transaction, several users suggested local law enforcement as a commercial resource. One user wrote, "If anything makes you uncomfortable then ask to meet at a police station or someplace public." Another agreed that it was wise to "meet at or across from a police station". The state is not always a neutral venue in these contexts. Several police departments, including those in Philadelphia, Virginia Beach, and Boca Raton, have responded to this social custom by encouraging merchants to conduct commerce in the lobbies of law enforcement offices.¹⁷⁷ The police department in Columbia, Missouri even created a commercial for

public television that advertised its lobby as an Online Exchange Zone.178 Here, not only users but also state institutions work to control the commercial process within their jurisdictions.

A related social custom is rooted in the platform culture of local commerce and the website infrastructure of email relays. On the discussion board, users encourages their peers to conduct exchange in cash rather than through wire payment, personal check, or Paypal charge. These latter payment technology could be exploited by fraudulent merchants, who might accept wire payments before handing over goods, write personal checks that cannot be cashed, or send fake Paypal confirmation emails. If one party insists on writing a check, so the custom goes, then the other party should cash the payment before finalizing the exchange. As one user summarized, "Cash is the ONLY way to go," because paper currency cannot be easily counterfeited or time-lagged. For this reason, Craigslist users also avoid conducting commerce with distance merchants, who contact them through the Craigslist message system, built into website infrastructure, and make appealing offers to have the product delivered by post. Craigslist formalized this custom in September 2014, when they added to their guidelines, "Ignore
emails/texts from non-local persons" and, a month later, replaced that guideline with a more specific one: "Do not extend payment to anyone you have not met in person."

Craigslist users also follow broad social customs related to website infrastructure in order to avoid fraudulent exchange. The absence of dispute protocols on Craigslist means that users must fend for themselves in the digital free market. Part of this self-defense is the knowledge of social customs related to market acumen. On the discussion board, users refer to these customs as "due diligence" or simply "common sense". One discussion board participant offered a set of questions to ask oneself before entering a transaction: "Just be very careful. Ask yourself, 'Am I being caught up by greed or other allure?' Ask, 'Can I afford the loss/hassle if this is a scam?'" Users cast greed as a psychological trait that is easy to exploit, and they instruct their peers to beware of listings that offer items well below their market value. When someone on the discussion board reported a fraudulent car advertisement, a user replied, "Thieves get rich cheating nitwits who think they can get something for nothing. NOBODY is going to sell a beautiful 2008 Jetta with 77K miles for $2500. It is ALWAYS a scam." Another user chimed in: "Scammers prey on cheapskates who think they can get something for nothing." Cooperative exchange, according to many Craigslist users, was a matter of psychological self-awareness. A seasoned platform merchant directly connected

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fraudulent exchange with improper conduct, insisting in a discussion board post, "You can't be scammed unless you cooperate". Another discussion board participant from Fort Collins elaborated on the relation between fraud and acumen: "You can be scammed in a bank or supermarket or anywhere online. One must use common sense, and it helps if one reads up on potential fraud and scams."

On Craigslist, users develop social customs to mitigate concerns of fraud and control the commercial process. These customs relate to website infrastructure, platform culture, and state institutions. The absence of payment and delivery protocols in Craigslist infrastructure means that merchants must meet in person to conduct exchange. With the interpersonal encounter comes a series of practices that jockey state institutions and public spaces (and, sometimes, chemical agents) to ensure personal safety. The state serves as a backdrop of commerce in some cases, as when commerce is conducted in front of a police station; and functions as a direct actor in other cases, as when law enforcement authorities encourage citizens to meet in the lobbies of their offices. Gender also figures into the social customs surrounding interpersonal encounter, as women take concrete steps to ensure their safety during unregulated exchange. Infrastructure and culture intersect in the social custom of cash exchange, which eschews long-distance commerce conducted over email relays in favor of local exchange conducted through immediate payment. The loose set of social customs related to market acumen also eschews infrastructural commerce for local exchange, proper to the platform's neighborhood culture. In these diverse cases, Craigslist is not a fenced garden but an overflowing lawn that implicates infrastructures, culture, and institutions in its greenery.
Here, electronic commerce is far from exclusively economic, as a variety of factors external to exchange enter the commercial process for the benefit of users.

Hidden Abodes of Exchange

On Silk Road, eBay, and Craigslist, users take steps to control the commercial process, developing social customs that rely on website infrastructure, platform culture, and state institutions. This means that internet markets are not self-regulating, insofar as users furnish *de facto* regulations in the absence of formal ones. This also means that internet markets are not self-contained, as infrastructures, cultures, and institutions enter the drama of exchange, either as passive or active players. Digital exchange is not purely economic but also infrastructural, cultural, and institutional. Electronic commerce has "hidden abodes", or external factors that inconspicuously facilitate exchange. Users are well positioned to understand these discreet factors, because they take steps to manage their exchange relations, drawing on available resources, both economic and non-economic. The role of external factors within internet market exchange has consequences for cyberlibertarianism, free labor, and electronic commerce.

Cyberlibertarianism and free labor share a view of internet exchange as comprehensively economic. According to cyberlibertarian logic, if internet platforms are self-contained islands of digital activity, then internet markets are self-contained islands of economic activity. The digital ideology affirms the autonomy of these venues and the importance of boundaries around them. This is part of how cyberlibertarianism justifies the evasion of state regulations, understood as the unnecessary encroachment of these boundaries. According to free labor logic, if internet activity is consistently monetized,
then internet platforms are comprehensively economic. This is how Terranova refutes the argument that the internet is anarchocommunist. These paradigms arrive at the same general way of thinking about the internet platform economy, albeit through entirely different routes. In both accounts, internet platforms are comprehensively economic, either because non-economic factors do not breach platform boundaries (cyberlibertarianism), or because non-economic factors turn out to serve economic purposes once inside those boundaries (free labor).

Contrary to the ideas of cyberlibertarianism, non-economic factors enter internet market exchange through unexpected paths. Further, contrary to the ideas of free labor, these factors cannot be characterized as purely economic: even though they facilitate commerce, they exhibit their own infrastructural, cultural, and institutional dynamics. To characterize website infrastructure, platform culture, and state institutions as purely economic is to miss these situated dynamics — the ways infrastructures, cultures, and institutions enter the commercial process, not as sources of direct monetization but as touch-stones of user practices. Further, to characterize these factors as purely economic is to forward a functionalist argument, in which economic, infrastructural, cultural, and institutional factors are woven together so thoroughly that they cannot be analytically distinguished. It's the economy all the way down. Not only does the functionalist perspective fail to account for the unique qualities of infrastructures, cultures, and institutions in the context of electronic commerce. It also falls victim to paraconsistent logic: everything is either economic or non-economic, but the non-economic contributes to the economic, so the non-economic is also the economic. In a formal contradiction, A = A and not-A = A. Free labor theory ends up endorsing a self-contained internet
economy in much the same way that cyberlibertarianism endorses a self-contained internet as such.

As venues of social customs, internet markets help us understand how users control internet exchange in the absence of regulations. Unlike the merchant laws mentioned by Trotter Hardy, social customs are not grounded in jurisdictive institutions. Rather, they are grounded in the dynamics of infrastructures, cultures, and institutions that are formally external to electronic commerce. These procedures can include the traces left by website infrastructure, such as the feedback dates on Silk Road or user activity logs on eBay; the sensibilities of platform culture, including the outlaw mentality of Silk Road veterans or the local preferences of Craigslist users; or the functions of state institutions, such as the surveillance function of the state on Silk Road or the protective function of the state on Craigslist. These infrastructures, cultures, and institutions have their own independent existence and operational procedures, but they are leveraged by users aiming to control the commercial process nonetheless. Paradoxically, on internet markets, the protocols that are formally designed to facilitate commerce become the means of economic conflict, and the systems that have different formal purposes become the raw materials of economic cooperation. If these digital free markets, which are meant to be self-regulating and self-contained, implicate factors external to trade, then it is likely that electronic commerce will always be more than electronic and more than commercial — not an isolated island but a vast archipelago.
CHAPTER 3
MONEY ON THE SIDE
PERFORMING MERCHANT LABOR

On internet markets, actors take steps to manage exchange. In performing the lion's share of platform work, vendors develop selling strategies to control the commercial process, including its potential for fraud and its potential for profit. These actors have a particularly vested interest in equitable exchange, given the resources they outlay during online sales. Like the social customs developed by users generally, vendor strategies are connected to website infrastructure, platform culture, and state and commercial institutions, but in ways that reflect the vendor goal of selling goods. This means that even the business side of internet markets is more than just business: sellers with properly economic motives leverage infrastructures, cultures, and institutions to realize those motives. This is important, because internet markets are supposed to be self-regulating and self-contained, yet vendors employ *de facto* regulations in the form of selling strategies, and internet markets turn out to be embedded spheres of economic activity in the very place where they should be thoroughly economic — the area of digital labor.

Just Business

Scholarly and popular accounts of the digital economy tend to focus on its properly economic dimension. In their *Wikinomics* manifesto, Don Tapscott and Anthony D. Williams advocate a digital business plan centered on the monetization of online user
activity and the ensuing minimization of overhead costs.\textsuperscript{181} Yochai Benkler, in \textit{The Wealth of Networks}, locates latent economic value in collaborative internet activity, which he positions as constructively unregulated.\textsuperscript{182} Manuel Castells, during his discussion of the digital economy in \textit{The Network Society}, relates the structure of internet networks to the global circulation of economic capital.\textsuperscript{183} \textit{The Four Hour Work Week} by Tim Ferris outlines an entrepreneurial strategy that leverages the distributed structure of the internet to generate personal economic prosperity.\textsuperscript{184} Arun Sundararajan's \textit{The Sharing Economy} concerns the economic value of networks in the provision of on-demand services.\textsuperscript{185} These studies of the digital economy ask: where are the economic resources on the internet, and how should they be managed?

Critical accounts of digital labor likewise tend to focus on its properly economic dimension, despite their focus on the production of value rather than its mere location. Tiziana Terranova sees internet exchange as comprehensively economic, insofar as it is monetized by technology firms.\textsuperscript{186} Christian Fuchs follows Terranova in highlighting the

\begin{thebibliography}{99}
\bibitem{184} Tim Ferriss, \textit{The Four Hour Work Week} (New York: Random House, 2007).
\bibitem{185} Arun Sundararajan, \textit{The Sharing Economy} (Cambridge: MIT University Press, 2016). I draw on Sundararajan through the rest of this paragraph.
\end{thebibliography}
economic value of user activity online.\textsuperscript{187} In line with Terranova and Fuchs, many scholars argue that the surveillance of user activity is the skeleton-key to the extraction of economic value on the internet; such that user activity, figured as a kind of digital labor, sets the groundwork for a global industry in data.\textsuperscript{188} Lilly Irani analyzes the economic bifurcation of digital labor into menial work and high-technology work.\textsuperscript{189} For Sarah Roberts, content moderation is not just a user hobby but a legitimate micro-economy.\textsuperscript{190} These studies of digital labor ask: who provides the economic resources, and how does that provision process work?

Despite their different perspectives and different objects, accounts of the digital economy and accounts of digital labor are principally concerned with the economic dimension of internet activity. When infrastructure enters the picture, it is an infrastructure of capital circulation (Castells), monetized surveillance (Fuchs), or outsourced task execution (Irani and Roberts). When culture enters the picture, it is a

culture of voluntary user participation (Benkler) to be widely monetized (Tapscott and Williams) without user compensation (Terranova). When institutions enter the picture, they are outdated commercial institution, such as taxis and hotels (Sundararajan), ready to be disrupted (Ferris). In these accounts, infrastructures, cultures, and institutions occupy a marginal position in the digital economy and in digital labor.

User Accounts

Internet markets tell a different story. On Craigslist, eBay, and Silk Road, vendors develop selling strategies connected to website infrastructure, platform culture, and state and commercial institutions — factors considered minor players in accounts of the digital economy, accounts of digital labor, and accounts of self-contained platforms advanced by cyberlibertarianism. These selling strategies help vendors control the commercial process. In contrast to user customs, however, these strategies reflect the vendor goal of selling goods, and they tend to relate to different elements of infrastructures, cultures, and institutions — factors that are not only present on internet markets but flexibly so. On eBay, vendors formulate selling strategies connected to the website infrastructure of algorithms, seller fees, hacked profiles, and digital protocols; the platform culture of rival sellers, object expertise, and visual conventions; and the commercial institutions of conventional businesses, yard sales, and thrift stores. On Silk Road, sellers execute selling strategies related to the website infrastructure of price displays and seller blacklists; the platform culture of anonymous users and unsophisticated actors; and the surveillance of state institutions. On Craigslist, vendors develop selling strategies that interface with the website infrastructure of filter protocols, post expiration, and scam text
messages; the platform culture of casual buyers; and the state institutions of law enforcement, as well as commercial institutions of retail stores. This is significant, because digital labor is supposed to be an economic matter, and internet markets are supposed to be self-contained spheres of economic activity. Yet even actors who treat internet markets as business venues lean on infrastructures, cultures, and institutions during digital exchange. Merchant labor on internet markets is more than just business.

The presentation of evidence in this chapter reflects the contextual nature of selling strategies, or their connection to what, how, and why vendors are purveying certain wares. Although I sometimes reference discussion board conversations, I principally draw on the interviews I conducted with internet merchants in order to provide a deep account of selling strategies.¹⁹¹ These are vendors portraits, which we will consider one by one, with references to broader trends but a focus on individual user accounts.

Practical Speculation

On eBay, vendors develop selling strategies to control the commercial process, alleviating concerns of fraud and increasing profitable sales. These strategies are not only economic but also infrastructural, cultural, and institutional. Vendors negotiate the website infrastructure of market algorithms, which determine which products are prominently displayed; seller fees, which inform the conditions under which sales are profitable; hacked profiles, which are potential sources of fraudulent exchange; and digital protocols, which inform what is technically possible on the site. Their selling

¹⁹¹ See the discussion of interview methods in Appendix II.
strategies are also related to the platform culture of rival sellers, who may seek to manipulate them; as well as object expertise and visual conventions, which inform the way objects are presented. They furthermore interface with commercial institutions, including formal business, yard sales, and thrift store. Even as they position profit as their principal goal, these vendors leverage non-economic factors in their pursuit of online sales. Digital labor on eBay is more than "just business", and the auction market is far from a self-contained sphere of economic exchange. Rather, infrastructures, cultures, and institutions enter into the process of merchant labor — the very part of digital exchange that should be most thoroughly economic. In what follows, I describe the selling practices of five eBay vendors who I interviewed.

A Baton Rouge man in his early 40s uses selling strategies related to the website infrastructure of market algorithms and the platform culture of rival sellers. As an owner of a pawn shop, he uses eBay to sell "purses, wallets, sunglasses, watches, jewelery [sic], giftcards, and small electronics", which he has in stock in his store and which he knows "will sell for sure". An eBay user since the late 1990s, he relies on a calculated pricing strategy to decide on a reasonable starting price for goods. His formalized pricing mechanism reflects the relatively high stakes of his online sales, bound up in his professional goals. It also reflects his attempt to stand out in the expansive auction market. eBay controls the visibility of items through a market algorithm, about which vendors know little. This vendor reasons that a good price will attract user attention; and this will, in turn, help increase the visibility of the object within the secret operations of the market algorithm. "I care about eBay showing my stuff to people," the vendor explained, and pricing strategy is a potential way to increase visibility. Price also takes on
an increased importance from the perspective of eBay's history, a history to which this vendor was witness over decades of platform involvement. In his recollection, Chinese sellers flooded eBay with cheap electronics in the late 2000s, exploiting international price differentials and crowding out pawn dealers like himself. These developments made the market even more crowded and competitive, and they altered the platform culture by shifting the kind of objects for sale on the site. Compared to the early days, he noted, there are more technology vendors and "fewer average people selling off their junk". The shift in object culture made his online sales more difficult, as eBay became increasingly known for technological products rather than secondhand ones. More difficult than the changes in platform culture, however, is the potential for fraudulent exchange on the site. He recalled a recent incident, during which a buyer filed a return on a $1200 item just days before the thirty-day cutoff for refunds. When he received the product, it had clearly been used, but involving the dispute protocol was "not worth the mental effort", given its bias in favor of the customer. Still, according to the vendor, the most frustrating part of merchant labor is not the presence of fraudulent buyers but the platform culture of rival sellers. "The most insidious people on eBay," he pined, "are the resellers who buy your items because they think they are smarter than you." These are other vendors that will purchase an item, leave a poor feedback as a form of vendor sabotage, and then attempt to sell that item at a higher price. Rival sellers require that vendors remain attentive to who is buying their products and why. Given the stakes of exchange, the Baton Rouge develops selling strategies that are connected to these infrastructural and cultural dynamics.
Not all sellers use eBay as extensions of their professional endeavors, but even casual vendors develop selling strategies to control the commercial process. A Raleigh woman in her 50s sells miscellaneous goods on eBay to generate small profits for side money, and her selling strategies are connected to the platform culture of visual conventions and the commercial institutions of yard sales. She attends these sales several times a month, "every weekend in the summer", and she purchases "guitars, clothing, cosmetics, beer mugs, auto parts, pretty much anything [she] can make a little money on". In tailoring her advertisements to the platform's visual standards, she spends "up to four hours" each week taking pictures of her goods and writing detailed listings for them. This is a significant amount of work, which she breaks up into small segments. As she explains, "I go in spells where I'll list a bunch of stuff, then I won't do anything for a while." Like the Baton Rouge pawn dealer, she points to fraudulent exchange as a difficulty of merchant labor, one that has gotten worse over time. As she explains, "I've seen more and more people that get taken advantage of because they don't cross every I and every T." Despite the necessary attention to detail, she remains committed to the thrill of speculative commerce, the "fun of buying something really cheaply at a yard sale and selling it for a decent profit" to "someone who has been looking for it". Although her compensation is usually minimal, in one exciting case, she purchased at a yard sale "a particular type of musical keyboard, very old, very rare" and resold the instrument for $299 to an antique collector. Her selling strategies proved effective during this exchange, as she leveraged the commercial institution of yard sales and the platform culture of visual conventions to sell a product at a significant profit.
A New York man in his 60s, selling off his collectibles in retirement, likewise takes steps to control the commercial process. These steps are connected to the website infrastructure of digital protocols, as well as the platform culture of visual conventions and object expertise. The vendor sells "mostly comics and magazines", as well as "holograms, old games on CD, a small coin collection" that he has acquired over years of collection. As a seller of collectibles, he puts great effort into the high-quality presentation of his goods and the respectable presentation of himself. Responding to the platform culture of visual conventions and object expertise, he explains, "I use sharp, XXL photos/scans. Links to wikis and info. I position myself as an expert in the field." In addition to presenting the objects according to platform conventions, the vendor stays up to date on platform policies: "listing policies, branding, shipping times and policies, return policies". The New Yorker repeated a common complaint about platform protocols, mentioned by nearly all the vendors that I interviewed: sellers cannot leave feedback on the profiles of deceptive buyers. The vendor referred to the feedback system as "a total scam. Buyers can NEVER be negged [rated negatively]. Even the known scammers have a 100% positive ratings." eBay's biased protocols, according to him, make internet commerce feel like a typical job: "Ebay treats us like we work for it. Just stocking it's shelves." Here, platform culture and website infrastructure inform the selling strategies that are necessary in the auction market.

Meanwhile, a seasoned vendor in his 30s, based in the United Kingdom, uses eBay as the principal sales venue for his computer hardware business. His selling strategies interface with the platform culture of object expertise, as well as the website infrastructure of digital protocols and hacked accounts. Given its relationship to his
formal work arrangement, merchant labor takes up a significant deal of his time. Further, given the technical nature of his wares, the vendor spends a plurality of this time presenting his goods in an expert manner, as well as "testing the items and detailing all the potential issues a customer will complain about". In addition to cultural conventions, hardware sales at a distance comes with regular correspondence with customers over delivery, maintenance, and quality. As a percentage, few customers complain; but the business has a large customer base, meaning that there are many complaints in real numbers. The website infrastructure of dispute resolution protocols, biased toward the buyer, means that complaints are best handled "before they escalate" into full-blown contests. Further, the website infrastructure of hacked accounts means that bad actors have a clear path to free goods — a path that is treacherous for the vendor, given the high cost of hardware products and the professional stakes of his online sales. After the vendor sold a computer over eBay, he received an email from the platform, informing him that the sale had been cancelled, because the buyer account had been hacked. The email read, "We’re writing to let you know that we had to cancel the following transaction(s) because the item(s) were purchased without the account owner's permission." The vendor was relieved that he did not send the expensive product, but he expressed concern over the recent presence of hackers on the site. Hacked accounts were now another dimension of website infrastructure that informed his selling strategies, along with dispute resolution protocols and platform conventions.

Lastly, a Virginia man in his 20s develops selling strategies related to the commercial institution of thrift stores and the platform culture of rival sellers. Twice weekly, he travels to nearby thrift stores, purchases miscellaneous items he thinks are
valuable, and resells them for a profit in the auction market. These items include "Gameboys, ink carts, old radios, fish finders, [and] curtains". He relishes this part of the exchange process — the work of finding objects for resale, which he refers to as "a treasure hunt, free money, ect. [sic]". But he finds the rest of the exchange process rather tiresome. In particular, he finds frustrating the platform culture of rival sellers. One vendor, he related, "bought a working radio, listed it on the same ebay account they bought it with but several states from the original mailing address. While listed on their ebay for sale, they opened a return claiming it didn't work, yet describing in their listing that the radio was 'fully functional'." Nevertheless, he notes, navigating the platform culture of rival sellers is worth the supplementary income that eBay furnishes. Despite being oriented toward an economic end-game, his selling strategies are connected to infrastructural and cultural dynamics.

On eBay, vendors develop selling strategies to control the commercial process and execute successful sales. Even as they bear an economic purpose, these strategies exceed the realm of the economic and implicate infrastructures, culture, and institutions. Far from self-regulating, eBay relies on the de facto regulations of vendors, who work to protect their assets in the free digital market. And, far from self-contained, eBay plays host to non-economic factors, which figure importantly into the selling strategies of vendors. The cyberlibertarian vision of an autonomous internet platform misses the ways that digital exchange interfaces with factors that are formally external to electronic commerce, even when digital exchange is treated as a business with properly economic motives.
Dark Figures

Criminologists define "the dark figure" as the number of crimes that occur but are not recorded by the state. In considering Silk Road vendors, we are in a world of dark figures — individuals who are remiss to detail their illegal activities, especially if those activities continue into the present. Because I did not formally interview any Silk Road contraband dealers, I must rely on secondhand accounts to paint a portrait of merchant labor in the digital black market. Fortuitously, in August 2013, an unidentified individual, claiming to have been a vendor on Silk Road, posted on Reddit an Ask Me Anything (AMA) thread. In Reddit culture, an AMA is a real-time, question-and-answer thread, hosted by people with a particular expertise or experience, from industry leaders and politicians to computer scientists and factory workers. In this case, there is evidence to suggest that the individual claiming to be a former Silk Road vendor was being truthful. He was familiar with the technical niceties of the dark web, cryptocurrency, and stealth product delivery; the cultural dynamics of the Silk Road discussion board; and the chemical standards of drug purity evaluation. Moreover, in theory, a former dealer would be more willing to talk about their experiences than an active dealer, and neither would have anything to gain through a public forum, making an ulterior motive unlikely. In all, there are compelling reasons to believe in the legitimacy of this individual, and, for these reasons, the AMA will be the core of the subsequent analysis. We will also hear from

193 FormerSR, "I'm a former Silk Road drug dealer, AMA!" Reddit, r/Casualama, https://www.reddit.com/r/casualiama/comments/1l0axd/im_a_former_silk_road_drug_dealer_ama
other vendors, through their comments on the discussion board, and these comments will help us identify trends in merchant labor in the digital black market.

On Silk Road, sellers developed selling strategies to control the commercial process — its potential for fraud, for profit, and for state detection. These strategies were related to website infrastructure of market prices, which were important determinants of sales, and seller blacklists, which helped vendors avoid deceptive users. Vendor practices were also connected to the platform culture of anonymous and unwitting users, who took advantage of their dark-web privacy or failed to perform their due diligence during illegal commerce. Notably, selling strategies interfaced with state institutions, which posed a legal threat at nearly every stage of black market exchange. This means that Silk Road was not self-regulating, insofar as vendors took steps to informally regulate the commercial process and execute their economic goals. This also means that Silk Road was not self-contained, as the digital movement of contraband marshalled factors that were external to electronic commerce.

The Silk Road vendor who hosted the AMA did not directly identify his age or location, but he did mention that he had recently impregnated his girlfriend, suggesting that he is a man or an individual with male anatomy. I will consequently use the presumptive masculine pronoun to refer to this vendor. According to his account, he was a dealer of LSD, MDMA, and hash, none of which he would "personally consider harmful", and he made "upper six-figures" over a year of part-time dealing. He worked a conventional 9-5 job during his tenure on the platform, and, despite the profitability of drug sales, he "never made a business out of it". His merchant labor generated money on the side, and a lot of it — the markup on his products, or the difference between their cost
of acquisition and their price of sale, ranged "anywhere from 40% to 300% depending on the quantity". Perhaps unsurprisingly, given his capital gains, he characterized his vendor experience as generally positive, stating, "I think the year or so I spent selling on SR was one of the most satisfying things I've ever done." He also characterized the digital black market as generally avant-garde, asserting, "SR is absolutely the future. Dealers are much safer, customers can be assured of some level of quality control and there's little risk of violence. Everybody wins."

In the first instance, his selling strategies were related to the website infrastructure of market prices. Prices were listed alongside objects, and buyers could even sort objects in ascending order of price. Of course, price is important in all markets. However, because there were so many vendors for each kind of drug, price was a particularly important way of capturing market activity. By listing items at an attractive price, and by listing items that were in high demand, vendors could generate sales in a crowded black market. For the AMA vendor, LSD was his best-selling product, because "it's very tough to find in a lot of places so there's a big market for it". He often leveraged geospatial price differentials through international orders, taking advantage of the economic circumstance that "some things are much cheaper in some markets than others". Price and demand were important market determinants, as vendors the discussion board noted. In May of 2012, a Silk Road user began a discussion board thread entitled Getting Started as a Vendor, seeking advice on creating a seller account. Recognizing the importance of platform longevity, the poster asked how to jumpstart his commercial venture without a broad platform reputation. One vendor assured him that a low price would help him stand out in the market, writing that "sales will be slow at first but if the demand for your product is
there, people will buy it". Undercutting the competition was a dependable path to market dominance, because, as the vendor continued to explain, "there are people on here, like me, who are poor enough to care about that [price] difference".

Merchant labor on Silk Road required more than a strong pricing strategy, however. As the AMA vendor explained, the work of packaging and shipping contraband constituted the core of merchant labor on Silk Road. This work was connected to the abeyant presence of the state on the platform, where black market sales were triply criminal — it is illegal to sell contraband (conspiracy to distribute), to send it through the postal service (mail fraud), and to lie about the reason for receiving the contraband payment (wire fraud). After photographing, describing, and selling a product — hardly an easy task in a crowded and stylized black market\(^{194}\) — the AMA vendor started the substantive work of packaging. Wearing gloves in order to prevent fingerprint traces, the vendor first wrapped the outgoing product in mylar, "after initially working with double vacuum sealing, which wouldn't be as dog-proof". He then put the product into a large envelope, which he subsequently put in a larger manila envelope, preferring "a letter format" over the fake package format used by other sellers.

The question of stealth packaging occupied many vendors on the discussion board, with users offering a variety of strategies for deceptive or discreet containers: re-sealed candy wrappers, re-glued tampon boxes, or the "inside a snap lock smelly proof bag, crushed flat and wrapped again in lavender scented tissue paper and mailed in a greeting card". In 2012, a vendor on the discussion board wrote about the labor of packaging contraband, which served as a barrier to entry for new sellers: "I can spend

\(^{194}\) See the discussion of contraband advertisements in chapter 4.
upwards of 4 hours a day just packaging... it is a VERY time intensive [sic] and you are always under the gun to get product out. I think this is what kills many vendors in the beginning. They think it will be easy but it isn't so they end up quitting." He also noted that packaging constituted an investment with a delayed yield: "I spend as much as $500 a week on packaging supplies and postage... that is $500 out of my pocket before I ever see any money from The Road..." Here, the logistical practice of packaging was an overhead expense, made elaborate and complicated by the spectral presence of state surveillance.

The AMA vendor continued: once the product was in a stealth package, the package needed to be shipped. This selling practice was likewise connected to the abeyant presence of the state, as vendors took steps to avoid detection by the institution at every stage of delivery. First, because the wholesale purchase of stamps and shipping materials could look suspicious to state authorities, the AMA vendor "bought [his] stamps and other supplies from multiple different places". He used an in-state, established business for the return address, musing, "I don't know if any one of those businesses every got a surprise return delivery though!" Then — and this became more important as his sales grew — he dropped the packages "at multiple mailboxes on relatively quiet streets". These were postal mailboxes, meaning he utilized the federal postal system, rather than couriers, who, he claimed, were "more likely to open and check your packages". While most of his deliveries were successful, he knew of three packages that "for sure were intercepted", but "all were small enough amounts (<$200) that they just resulted in a letter" from customs to the buyer. As the vendor explained, "It's not possible to prove that [the buyer] ordered something like that so it's tough to make it
stand up in court. Small orders usually result in angry customs letter and no more." Here, the vendor's shipping practices responded specifically to the prosecutorial dynamics of the state, or its legal inability to prosecute without rigorous evidentiary support. These practices were shared by other vendors who spoke about their experiences on the discussion board. When someone began a humorous discussion board thread entitled "25 ways to get caught as a vendor on Silk Road", sellers posted cheeky comments about rookie vendor mistakes. Several discussion board posters described blunders in the packaging and shipping process: "Buy a lot of stamps in the same shop all the time"; "put your actual correct return address on the package"; and "throw something personal from your pockets between the envelopes in the mail". These witty responses highlighted, through negation, the selling strategies involved in moving contraband through the state's postal system.

The platform culture of anonymous users and unwitting buyers also informed vendor practices. According to the AMA vendor, anonymity and naivety complicated the customer service dimension of vendor sales. Reflecting on the nature of anonymous trade, the vendor noted generally that "it's difficult to tell if the client is being honest or not". This made fraud a potential obstacle in the commercial process. Unlike the dealer who went by the name of Mr. Duch during the Ross William Ulbricht trial,\(^{195}\) he claimed that he did not keep a spreadsheet of buyer information, but he did keep "a log of refunds so [he] could see if somebody was trying it repeatedly". Fortunately, the discussion board furnished a partial strategy to avoid fraudulent actors — "a sellers blacklist (for blacklisting bad buyers)" to which the vendor "added a couple of users". The AMA

\(^{195}\) See the discussion of Mr. Duch and vendor blackmail in chapter 1.
vendor went so far as to say that fraudulent and naive actors were more of a concern than the law enforcement agents, who he believed were "browsing around the SR [Silk Road] forums and such". The vendor, in particular, characterized irresponsible users as the Achilles' heal of dark web markets. When someone asked about technological flaws in dark web market architecture, the vendor inverted the question and offered a social response. "Weakest point," he replied, "is the pile of meat sat in front of the keyword," referring to human actors, susceptible to error and manipulation. "There are enough people out there with terrible OPSEC [operations security] that are too willing to trust people they ultimately can't see." Dealing with the culture of anonymous and reckless customers meant commercial record-keeping and infrastructural crowd-sourcing as means to honorable commerce.

Other sellers related similar experiences on the discussion board. According to one vendor, merchant labor partially consists of customers "bugging the shit out of you, asking you all kinds of questions about each transaction". Here, the exchange custom of vendor evaluation multiplied customer service work for the vendor, who needed to prove his commercial trustworthiness through long conversations.\(^{196}\) When one user speculated that "Silk Road drug dealer has got to be the best job on earth [sic]", "because it's so damn easy", a vendor countered that sellers "have to deal with crappy ungrateful customers", including "customers that lie about their package not making it". Another agreed that "[h]aving to deal with idiot customers" was a principal challenge. According to the AMA vendor, it was the "idiot customers" who were the most frustrating. "I had a guy message me," he related, "every single day asking where he package was (it was

\(^{196}\) See the discussion of vendor evaluation in chapter 2.
going international, I had no idea) and after about five days he starts asking for a refund even though shipping usually takes 8-12 days. He left a bad review."

In these cases, vendors developed selling strategies to control the commercial process in ways their reflect their goal of selling contraband. These strategies were connected to website infrastructure, platform culture, and state institutions, which helped vendors determine what to sell, how to sell, and to whom to sell. Infrastructures, cultures, and institutions were not neutral backdrops but influential factors in the decision-making operations of black market sellers. Silk Road was far from a self-regulating libertarian utopia, as vendor practices were *de facto* regulations that helped sellers control the commercial process. Vendors sought control over economic exchange by leveraging non-economic factors, making Silk Road embedded rather than self-contained. With an eye on infrastructures, cultures, and institutions, vendors developed strategies that well exceeded the economic.

Free Trade

Craigslist vendors also take steps to control the commercial process in their pursuit of profitable sales. These steps are related to the website infrastructure of the filter protocol, which determines how many times users may post advertisements; post expiration, which removes posts after a certain period of time; and scam text messages, which can sometimes accompany the posting of contact information in advertisements. Vendor strategies are also connected to the platform culture of casual users, who may express interest in an item without actually following through on its purchase. Selling tactics also interface with the state institutions of law enforcement, which can provide a
failsafe during the interpersonal encounter, and the commercial institutions of retail stores, which make the secondhand market attractive through high prices and regular product turnover. Despite their economic motives, Craigslist vendors leverage infrastructures, cultures, and institutions to control the exchange process. The local internet market is far from the self-contained and self-regulating platform envisioned by cyberlibertarianism. Rather, Craigslist implicates a variety of other factors that are external to electronic commerce, as vendors aim to exert de facto regulatory control in the digital free market. In what follows, I draw on interviews I conducted with five Craigslist vendors.

A Los Angeles woman in her 20s takes steps to control the commercial process on Craigslist, and these steps are related to the commercial institutions of retail stores and the state institutions of law enforcement. She sells and buys furniture on Craigslist, and local market has become her "go-to place for finding furniture/getting rid of furniture" after seven years of use. Craigslist offers a reasonable alternative to furniture stores, which she sees as "way overpriced". She offers her wares at a significant discount, not only compared to retail prices but also compared to Craigslist prices: "I'll usually check-out what's the current selling price and try selling it $5 less. If that doesn't bit [sic] after a few days, I'll sell it a little bit more. I'll also research similar items on Craigslist what's the selling price and either try to have a price that’s $1-2 less or a very good description that entices someone to buy it." Like other women users of the site, she takes precautions when meeting with potential buyers. She typically meets prospective exchange partners at "the Santa Monica Police Station or near the entrance of a Target" in

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197 See the discussion of interpersonal Craigslist encounters in chapter 1.
her neighborhood. "I do usually go with a friend," she elaborated, "or someone just to be on the safe side." Finally, she added, "I also always carry pepper spray." There are institutions on either side of her selling practices: the commercial institution of the furniture store motivates her to sell goods in the first place, and the state institution of law enforcement allows her to safely finalize transactions.

Also in Los Angeles is a man in his 50s who has generated "about 1 million" dollars in profits through Craigslist over the course of five years. His selling practices are related to the website infrastructure of filter protocols and scam text messages. This vendor uses the local market to rent out a three-apartment loft and a photo studio in Downtown LA, both of which he "owns through prior circumstances". The former rakes in "over 60K per year" in rent, and the latter brings in handsome returns through hourly rentals. Craigslist labor is an addition to his formal employment, a job in finance with a flexible schedule, Unlike the furniture dealer, he sells regularly on the platform, and he includes in the exchange process a posting strategy that is infrastructural in nature. Because he advertises multiple times each day, he schedules his advertisements to avoid the platform's filter protocol, which removes repeated postings and sometimes bans over-active IP addresses. "I post 6-8 ads a time, wait an hour then repeat," he explained. "I'm competing with other people who run 40 50 ads per day". He subscribes to the Craigslist subreddit because "CL [Craigslist] changes algorithms occasionally" and the group discussion allows him "to get ahead of the ball". For him, fatigue accompanies the infrastructural practice of scheduled advertisements: "I'm so tired of posting," he conceded, "but it's easy." He has less control over another infrastructural element of the local market. By including his contact information in hundreds of advertisements, the
vendor opens himself up to scam text messages, which he fights of "every day". Scammers locate the contact information listed in his advertisements and, as he explains, "use my phone number for scam texts and calls". The vendor could not even make it through our hour-long interview without receiving a scam text message, remarking to me, "just had one while we chat". Still, the open structure of the platform is what makes the local market attractive. The vendor's motivations for using the local market revolves around cost, utility, and reach: "It's free and very popular and it works." For this vendor, website infrastructure is a major touch-stone of the commercial process, which he alternately controls through a pricing strategy related to the filter protocol, or fails to control through the reception of scam text messages.

Meanwhile, a Philadelphia woman in her 40s employs selling strategies related to the website infrastructure of post expiration. She sells furniture and jewelry as a way to clean out her living spaces and make casual revenue. A veteran of local commerce, she has been on the platform for "more than 20 years", and she feels that the site has "not at all changed" in that time. She continually renews her advertisements to prevent them from expiring, an infrastructural feature of the platform. Because each "posting will expire in a new days", she must regularly "refresh the posting" by posting it again and again. This practice keeps her wares visible in the crowded market. Like the LA woman selling furniture, she takes gender into consideration when planning interpersonal encounters with prospective buyers. "I meet them at a halfway point," she told me. "Sometime [sic] I have them come to my house only if it's a female." She does not rely on state institutions to protect her against interpersonal conflict, but she does take steps related to website infrastructure.
Further north, a Toronto woman in her 30s uses Craigslist to sell her copy-editing services, which she performs as an addition to her job in publishing. Her selling strategies interface with the website infrastructure of post expiration and scam text messages. For this vendor, the commercial process begins with the composition of an advertisement, an important practice, given that superlative writing is part of the service that she is offering. "Writing quality ads is a lot of work," she told me. "A good ad has to have all the keywords that clients are looking for, but be unique enough to stand out. It also can't replicate the hundreds of other ads on the site." Moreover, she schedules her advertisements in relation to the website infrastructure of filter protocols, posting "at the same time once per day in a set rotation" in order to habitualize the practice and avoid the platform filter. Posting on the platform has become more difficult during her ten years on the platform, she told me, because "you get scam txts [sic] if you post ads with your contact info", and "the volume of scam [sic] has increased dramatically" in recent years. Like the LA real estate vendor, she manages these unwanted messages as a price of entry into the local market. Her selling strategies, in this respect, are infrastructural: she tailors her posts to the filter protocol embedded in website infrastructure, even as that infrastructure furnishes unsolicited text messages from scammers.

In contrast to these seasoned vendors, a New Jersey man in his 20s came to Craigslist with minimal experience and stumbled through commercial process in 2017. The commercial institution of car dealerships, the platform culture of casual buyers, and the website infrastructure of scam messages figured centrally in his experience of secondhand auto sales. After he wrecked his first car, he went to a dealership to sell it for parts, but he wasn't satisfied with the offered price. A friend suggested he post the vehicle
on Craigslist, which he did, at which point he received a variety of dead-end inquiries: "I had several people text me asking for more pics and when you send them they just don't respond. They'll seem interested then just ghost you." The casual culture of Craigslist meant that buyers were quick to inquire about product but slow to finalize the transaction. Corresponding with casual buyers "felt like work", and the practice of ghosting, or the sudden cessation of interpersonal communication, multiplied the correspondence labor. Having included his contact information in the advertisement, he also began to receive scam text messages "from unknown area codes with horrific grammar or very clearly not human, asking generic vague questions". In his experience with scammers, "when you answer, they’ll send you a wall of text taking [sic] about how they’re in the military or out of country or in the hospital etc, and would like to PayPal you the money and have an 'agent' pick up the car." At last, he was pleased to receive a reasonable offer from "a guy who wanted to rebuild [the car]". However, on the day of the meetup, something didn't feel right. As he explained, "[The buyer] told me he couldn't make it last minute, and that his brother was coming to pick up the car." The sudden change of plans seemed like a prelude to fraudulent exchange: "I thought this was some kind of play," he recalled. Fortunately, his concerns were not warranted, as the buyer's story "turned out to be legitimate, and [the buyer's] brother gave me cash and took the car." Unlike seasoned sellers, he did not have a set of tactics for navigating the market, and he consequently struggled through the commercial process. Indeed, without the know-how of more experienced vendors, this rookie came close to entering a potentially fraudulent exchange. Still, the local market remained attractive to him. When I checked up on the New Jersey vendor a few weeks after our interview, he had just posted another car for
sale, although he had not yet received any offers. "It's a more expensive car," he told me, "so I didn't expect it to sell too quick [sic]."

In these cases, Craigslist vendors take steps to control the commercial process, but in ways oriented toward their goal of selling goods. These are not purely economic steps but ones related to website infrastructure, platform culture, and state and commercial institutions. This means that Craigslist is not a self-contained sphere but an embedded arena of economic activity, as vendors marshal non-economic factors in realizing their economic motives. This also means that Craigslist is not a self-regulating market, but one that relies on the *de facto* regulatory controls of motivated users.

### Embedded Economies

On internet markets, vendors take steps to control the commercial process, but in ways that reflect their goal of selling goods. These steps are *de facto* regulatory controls that are designed to facilitate fair exchange. Despite being oriented toward an economic goal, these steps implicate website infrastructure, platform culture, and state and commercial institutions. This matters, because internet markets are supposed to be self-regulating and self-contained, yet vendors draw on factors that are external to electronic commerce in order to manage online exchange. Merchant labor on internet markets is not a purely economic affair but one that significantly involves non-economic factors. These factors are not mere backdrops of exchange but important touch-stones in selling strategies of commercial control. Even as business venues, internet markets are embedded spheres of economic activity that are infrastructural, cultural, and institutional.
It is important to underline the role of infrastructures, cultures, and institutions in merchant labor on internet markets, because accounts of the digital economy and accounts of digital labor tend to focus on the economic dimension of internet activity. These accounts help us understand how economic value is distributed and produced on the internet; but they do less to shed light on the role of infrastructural, cultural, and institutional factors in the digital economy and in digital labor. To be sure, such factors appear in these accounts, but they are more often treated as background conditions and less often treated as significant touchstones of user activity. Cyberlibertarianism takes this treatment one step further by positioning internet platforms as islands of economic activity — self-regulating, self-contained, and self-sustaining. Once again, the assumptions of cyberlibertarianism are not far-off fantasies but radicalized versions of conventional thought patterns. In other words, where accounts of the digital economy and digital labor position infrastructures, cultures, and institutions in the background of value production, cyberlibertarianism removes these factors from the scene entirely — save for the infrastructural protocols that make cultures and institutions irrelevant.

Internet markets are privileged sites for the study of infrastructures, cultures, and institutions in the context of digital labor and electronic commerce. This is because external factors become vitally important when vendors aim to control the commercial process and execute profitable sales in the absence of conventional regulations. Internet markets represent a kind of ground-zero of digital exchange, where market actors freely encounter one another with few commercial safeguards. Without the trappings of conventional electronic commerce, internet markets visibly show us how digital workers leverage the scattered resources available to them. The importance of these resources as
touchstones of merchant labor complicates the view of electronic commerce as purely economic. Although debates over digital value production are beyond the scope of this research, it is worth noting that the value produced by internet vendors is connected to infrastructures, cultures, and institutions that appear external to digital labor.

Paradoxically, by removing the trappings of conventional regulations and by isolating vendor practices as conceptual objects, internet markets end up revealing the deeply embedded qualities of digital labor in the context of electronic commerce.
CHAPTER 4
THINGS FOR SALE ON THE INTERNET
CIRCULATING INSTITUTIONAL OBJECTS

Institutions also aim to control the commercial process on internet markets. According to cyberlibertarianism, internet markets should be self-contained spheres of economic activity, beyond the messy realities of institutions. Yet state, commercial, and domestic institutions figure centrally in the circulation of objects on internet markets. In particular, institutions take steps to control the circulation of contraband, antique, and secondhand objects. These objects often enter digital exchange in exceptional moments when institutional control falls short, changes orientation, or exceeds expectation. These moments include: overflows, gaps, and bottlenecks in commercial institutions; byproducts in domestic institutions; and lacunae in state institutions. Contraband, in particular, exemplifies the role of institutional "failure" in digital exchange: because state institutions are tasked with the management of contraband, every act of contraband exchange is effectively a failure of institutional regulation. Far from being a white whale of the dark web, contraband circulates across Craigslist, eBay, and Silk Road alike. Every internet market is thus a black market — a final plot twist in our drama of exchange and an object lesson in digital commerce. That internet markets circulate contraband demonstrates the link between the anomalies of institutional regulation and the circulation of material goods.

Market Objects
Commodities are widely studied conceptual objects. In his classical formulation, Karl Marx defines commodities as privately owned goods exchanged in the capitalist marketplace for a profit, an exchange that alters the social perception of goods.\textsuperscript{198} Walter Benjamin follows this line of thinking in his analysis of consumer systems, which similarly transform the perceptual status of commodities.\textsuperscript{199} Since Benjamin's midcentury work, consumer culture has been widely studied as a social, psychological, economic, political, and historical phenomenon.\textsuperscript{200} Studies of digital consumer culture generally follow topical precedent and take a discursive approach to the question of online consumption.\textsuperscript{201} Theorists of eBay, for instance, argue that the expansive collection of objects online is alternately exhilarating and overwhelming to users.\textsuperscript{202} A recent line of thought, sometimes referred to as materialist media studies, has moved from a symbolic conception of commodities to an infrastructural one.\textsuperscript{203} Here, consumer objects are not

\textsuperscript{199} Walter Benjamin, \textit{The Arcades Project} (Cambridge: Harvard University Press, 1982).
only signifiers of symbolic meaning but fluid phenomena that require systems of maintenance and preservation. Studies of the internet of things take an infrastructural approach by considering the vast systems of production, distribution, and maintenance that make possible smart objects. The discursive tradition and the infrastructural tradition are two key paradigms for understanding the circulation of commodities.

Contraband, antique, and secondhand goods are widely available on the internet. A brief survey of their presence across the web will help us understand their unique position within internet markets. The early internet featured several prominent drug forums and marketplaces. At some point in the early to mid-2000s, users began to populate Craigslist with drug advertisements, although this became decreasingly common as Craigslist deleted its Erotic Services section, then its Adult Services Section, and, most recently, its Personals Section. Drug distribution on the dark web began with Silk Road

in 2013.\footnote{208} Weapon markets on the dark web began to thrive once the alternative communication network grew in popularity.\footnote{209} Less expected than the existence of a weapons market on the dark web is the existence of a weapons market on Craigslist and eBay. A 2008 study by the United States Governmental Accountability Office discovered troves of restricted military equipment on the sites, including body armor vests and nuclear chemical gear.\footnote{210}

Antiques were among the first objects to be widely circulated online. The history of eBay, in particular, is a history of antique exchange: dealers in collectibles populated

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\footnote{208} European Monitoring Centre for Drugs and Drug Addiction, "The Internet and Drug Markets," EMCDDA Insight 21 (Luxembourg: Publications Office of the European Union).

\footnote{209} Giacoma Persi Paoli et al., "Behind the Curtain: The Illicit Trade of Firearms, Explosives, and Ammunition on the Dark Web", RAND Corporation (Santa Monica: RAND Corporation, 2017).

\footnote{210} United States Governmental Accountability Office, "Internet Sales: Undercover Purchases on eBay and Craigslist Reveal a Market for Sensitive and Stolen U.S. Military Items," Testimony Before the Subcommittee on National Security and Foreign Affairs, Committee on Oversight and Government Reform, House of Representatives, April 10, 2008.
the auction site in the late 1990s, furnishing a baseline market in objects that helped the platform reach a critical mass of users in the early days of the internet.\textsuperscript{211} Bringing the antique market online was a boom for the collectibles industry, as well as a boom for the illicit antiquities industry, an underground market in cultural relics, dominated by the hyper-wealthy.\textsuperscript{212} By contrast, the online market in used goods is one dominated by the middle and lower classes.\textsuperscript{213} Secondhand economies tend to emerge when the lifespan of objects is high and the costs of conducting exchange is low.\textsuperscript{214} The secondhand market is part of a broader landscape of used good exchange: yard sales, car-boot sales, and flea markets, as well as clothing swaps, trash pickings, and other micro-economies \textit{sans} currency.\textsuperscript{215} In these cases, contraband, antique, and secondhand objects circulate in the margins of technological and economic systems.

Object-Oriented Economy

Contrary to the cyberlibertarian vision of a self-contained internet platform, and against the grain of the discursive tradition and the infrastructural tradition in commodity studies, institutions play key roles in the circulation of objects on internet markets. In

\textsuperscript{211} Adam Cohen, \textit{The Perfect Store: Inside eBay} (Boston: Little Brown and Company, 2003. See the discussion of eBay's history in Appendix VI.
particular, state, commercial, and domestic institutions aim (and sometimes fail) to control the movement of objects within their jurisdiction. Contraband objects enter digital exchange when the state fails to regulate them through laws and law enforcement bodies — a failure related to jurisdictional structures and resource allocations. The online circulation of antiques follows from gaps and overflows in commercial antique institutions, which allow objects to circulate on the internet, but on institutional terms. Bottlenecks in commercial retail institutions and overflows in domestic institutions underwrite the entrance of secondhand objects into internet markets. Secondhand goods alternately represent the failure of retail institutions to dominate the exchange of goods within their purview, and the ability of domestic institutions to control the after-life of household goods. These institutions variously attempt to control the commercial process, making them yet another player in the regulatory drama of internet markets. In what follows, we'll consider the objects in escalating order of platform presence: first, antiques on eBay; then, secondhand goods on Craigslist and eBay; and, finally, contraband on Silk Road, Craigslist, and eBay. Contraband will be the main focus of the chapter, given its empirical and demonstrative presence across the internet markets.

*Act One: Antique Objects*

On eBay, the circulation of antiques follows from overflows and gaps in commercial antique institutions. Objects qualify as antiques by virtue of their historical production origins. In antique culture, the production origin of an object — where, when, and by whom it was produced — is central to the object's qualification and valuation as
an antique.\textsuperscript{216} Customs authorities have regulatory jurisdiction over the movement of antiques, and they determine which objects should not be removed from their production origins. This is because antiques have a long history of being illegally transported.\textsuperscript{217} Antiques are also subject to regulation in the form of appraisals by trade associations.

eBay is part of a vast economic landscape in antique goods — retail venues, auction houses, yard sales, and flea markets — its position within the antique landscape is connected to its regulatory dynamics.\textsuperscript{218} On the one hand, eBay is more regulated than yard sales and flea markets: vendor send auction items through the postal system, making those items subject to customs regulation. On the other hand, eBay is less regulated than auction houses and estate sale organizations, which employ in-house appraisers to ensure the legitimacy and legality of antique goods. eBay thus occupies a middle ground in the antique landscape between casual sales and formal institutions.

The circulation of antiques on eBay is related to the platform's middle ground position. Let's consider two antiques that recently circulated on eBay. An antique plate from eighteenth-century China attracted an opening bid of $25 in early 2018. When I


\textsuperscript{217} For instance, Lord Elgin stole and resold Athenian artifacts during the nineteenth century, and John Paul Getty purchased looted Italian art in the 1980s. Erin L. Thompson, \textit{Possession: The Curious History of Private Collectors from Antiquity to the Present} (New Haven: Yale University Press, 2016). In a recent example, Hobby Lobby, a retail craft store in the United States, attempted to illegally import thousands of Iraqi relics from the United Arab Emirates and Israel, where, customs authorities determined, they belonged. Capturing the near-human status of objects, the court case was entitled, \textit{The United States of America v. Approximately Four Hundred Fifty (450) Ancient Cuneiform Tablets; and Approximately Three Thousand (3,000) Ancient-Clay Bullae}. In the US, objects themselves are tried when they are seized by customs officials.

interviewed the amateur antique dealer who posted the Chinese plate, he explained that he purchased the item at an antique fair in New Orleans. Drawing on his knowledge of Chinese history, the dealer reasoned that the plate was worth "about $200, at least $150", nearly three times what he had paid for it at the city fair, and he hoped to resell the antique for a profit. However, few buyers at his local flea market in Baton Rouge could afford or appreciate the antique. Nor were auction houses an appealing option, given their tendency to buy low and sell high. As he explained, "They 'rip you off by telling you [the antique] is crap and then making a low-ball offer." eBay offered a commercial middle ground. "If I post it on eBay," he projected, "it'll actually get goods bids. If I try to sell it here [in Baton Rouge], people will offer me jack shit." Here, the antique circulated through a gap in the landscape of commercial antique institutions — namely, the middle ground between the yard sale and the auction house.

The next antique is a product of a prestigious commercial institution. Where the plate seller captures the proficient but amateur vendor, the next seller embodies the institutional dealer, extending retail business into the online sphere. In 2017, an established antique house posted for sale an eighteenth-century English cabinet with an opening bid of $11,000. I spoke to the woman who posted the advertisement — an antique dealer in her early thirties who works at the affiliated auction house and who started the bookcase auction after the object failed to sell at the venue's brick-and-mortar showing room. She described eBay as a '"back up plan" for the sale of specialized antiques, and her decision to post on eBay revolved around an excess of supply. Following a brief stint in the main gallery of the auction house, the cabinet was "sitting in storage" and "taking up space" for weeks. This prompted the vendor to advertise the
object on eBay in search of an erudite and resourceful buyer from out of town. In this case, the antique entered eBay through an overflow in the commercial antique institution.

In these cases, commercial antique institutions either forfeited or exerted control over objects that fell within their purview. Neither yard sales nor auction houses sought to control the movement of the Chinese plate, and this institutional indifference prompted the dealer to sell the object on eBay. By contrast, the English cabinet was an object of institutional control. The antique house placed the object in digital circulation, but on its own terms — specifically, on the terms that it would sell and help solve an institutional problem related to storage infrastructure. Here, the antique market played host to the interplay of institutional indifference and institutional control. Far from self-regulating and self-contained, eBay implicated institutions, their regulatory drives, and their infrastructural capacities.

**Act Two: Secondhand Objects**

Secondhand goods enter Craigslist and eBay through bottlenecks in commercial institutions and as byproducts of domestic institutions. On Craigslist, furniture, vehicles, and electronics are major objects of secondhand exchange. These objects are widely unregulated. They are also widely produced, being manufactured by industries oriented around economies of scale (vehicles and furniture) or planned obsolescence (electronics). Finally, they are widely purchased. Several social trends keep furniture, vehicles, and electronics in perpetual motion.

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vehicles, and electronics in high demand: a residential culture of rapid relocation, an autocentric national infrastructure, a bike-friendly city infrastructure, and a vast consumer market in video games, televisions, cell phones, and assorted technological toys. These objects are widely unregulated, widely produced, and widely purchased — factors that typically grease the wheels of commerce. Yet furniture, vehicles, and electronics pass through retail bottlenecks once they enter the market. Furniture outlets, car dealerships, bike shops, and electronics retailers sell these commodities at high price, well above the cost of manufacture. This commercial gridlock — expansive production, broad demand, and restricted distribution — is a perfect storm for secondhand markets: there are many of these goods, there are many potential customers for them, and they are far cheaper to exchange once they leave the sphere of commercial institutions.

In the interviews I conducted with Craigslist users, many identified the platform with inexpensive secondhand objects. These objects, they explained, could be bought or sold at prices that were more reasonable than commercial retail outlets. In buying and selling furniture on the platform, a Los Angeles woman in her 20's explained that "prices are more reasonable" compared to retail stores. The high turnover rate of furniture by individuals could occasionally lead to spectacular deals on secondhand interiors,


"because people get desperate trying to get rid of things". A three-time car buyer with whom I spoke likewise preferred the platform over conventional dealerships in light of major price differentials. "I've witnessed dealerships tend to be more expensive," he explained, "being that they have to make a profit and pay salaries. And I've found that dealers are more inclined to hide problems with the vehicle that could cause major problems." Exchange on Craigslist, according to him, was less profit-oriented and less opaque than exchange at a car dealership, where institutional factors complicated commerce and drove up the price of goods. For another user I interviewed, the exchange of electronics on Craigslist was far more equitable than exchange at an electronics retail venue. Video game retailers, the user complained, are willing to repurchase secondhand consoles and games — but at an offensively low price. They will, for example, sell a new XBox One for $500, purchase a used one for $80, and then resell the used ones for $200. In these cases, secondhand objects enter Craigslist circulate through bottlenecks in commercial retail institutions.

On eBay, secondhand goods enter the market as byproducts of domestic institutions. In the auction market, electronics, clothing, and sporting goods are major objects of secondhand exchange. Since we already spoke about electronics, we'll focus on clothing and sporting goods here. Clothing and sporting goods are widely produced and potentially longevous: they may be maintained over years through proper care. Moreover, clothing and sporting goods are household objects that circulate through

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domestic institutions, or spaces of human development, such as familial households and other institutions of care. In these domestic spheres, care workers are able to maintain the longevity of clothing and sporting goods by means of domestic labor — the ongoing work of washing, drying, folding, sorting, and storing goods. Domestic caretakers, who are overwhelmingly women, maintain the quality of secondhand objects and thus make them eligible for resale on internet markets. In this way, secondhand objects on eBay circulate as derivatives of the domestic care system. The practices of human development, performed by women and other caretakers, underwrite the afterlife of consumer objects. Often, this is unintentional: caretakers maintain objects within the proximate context of domestic institutions, and this long-term care ends up making these objects eligible for resale.

I interviewed several women who have used eBay to sell clothing and sporting equipment that their children no longer needed. A California woman began to sell her daughter's old clothing on the platform in order to clear the house for an upcoming move. She described the collection as "years of clothes", "nice stuff" that was "basically collecting dust". After selling "a ton of dresses and shirts", plus "all of the purses" that she had posted, she took down the remaining advertisements and gave the unsold goods to charity. Another woman with whom I spoke sold used sporting equipment out of which her sons had grown: "bats, helmets, cleats, you name it". During our interview, she reflected on the amount of object turnover within her family. "Everybody needs something," she stated, referring to her husband and sons, "and then a year later forget [sic] about it." When a mother of five, who I interviewed, became an empty nester, she and her husband decided to renovate their basement, which had served as storage space
for domestic detritus. The pair ended up making "several hundred dollars" by selling a full pair of old golf clubs, "at least a dozen dresses", and other miscellaneous objects. In such instances, secondhand objects circulate as byproducts of domestic care systems.

Secondhand objects on internet markets are bound up in institutional dynamics. Commercial retail institutions try but fail to control the exchange of commodities in their purview. Furniture outlets, car dealerships, bike stores, and video game retailers seek to dominate the movement of goods that fall within their respective markets, but their distribution bottlenecks make them unattractive commercial venues for many consumers. By exchanging objects outside of these bottlenecks, Craigslist users avoid the high prices and slick selling tactics of conventional retail institutions. By contrast, domestic institutions effectively control the after-life of household goods, even if that control is unintentional at first. Care work gives secondhand objects a second life, enabling them move outside of domestic institutions into venues of electronic commerce. In such cases, merchant labor serves as an extension of domestic labor. Care work not only makes secondhand objects eligible for resale; but the act of reselling is itself a means to clean, and thereby maintain, the household. In one fell swoop, domestic care workers maintain the household and generate revenue for the domestic institution. In both cases, institutional dynamics figure centrally in the circulation of objects through internet markets.

Here, role of institutions within electronic commerce stands in contrast to the cyberlibertarian vision of a self-contained internet platform. It also exceeds the realms of discourse and infrastructure, which are considered integral factors in commodity circulation.
Act Three: Contraband

On Craigslist, eBay, and Silk Road, the circulation of contraband follows from lacunae in state institutions. More than commercial institutions, and far more than domestic institutions, state institutions vigorously attempt to control the movement of objects under their jurisdiction. By and large, they succeed in this attempt — enforcing drug, firearm, and military equipment laws through authoritative state agencies. Yet the digital exchange of contraband represents a failure by the state to regulate outlawed objects. Silk Road enjoyed a temporary vacation from institutional control due to the state's jurisdictional structure, in which only federal agencies have the capacity to execute technologically sophisticated operations. On Craigslist, the movement of contraband also follows from the jurisdictional structure of the state, but in a different way: local law enforcement bodies generally lack the resources necessary to monitor illegal advertisements and locate offending parties. Contraband on eBay likewise follows from the jurisdictional structure of the state, falling into a middle ground between federal and local agencies. Loopholes in the state laws also figure into the circulation of contraband on these platforms. That all three internet markets are also black markets underlines the relationship between state institutional "failure" and internet market objects: contraband enters digital circulation in those situated spaces where the state fails to control the objects in its purview. Let's begin with drugs on Silk Road and Craigslist before turning to the arms trade on Silk Road, Craigslist, and eBay.

On Silk Road, multiple lacunae in state power made possible the circulation of drugs on the platform. In a 2013 Senate hearing on Bitcoin, Silk Road, and the dark web,
federal law enforcement officials explained the problems associated with the enforcement of cybercrime. The hearing sheds light on the institutional gaps that Silk Road exploited during its brief tenure.

First and foremost, the circulation of drugs on Silk Road followed from a jurisdictional gap related to the infrastructure of the dark web. Conventionally, the United States government, like many European states, divides jurisdiction over the enforcement of drug laws between multiple agencies at municipal, state, and federal levels. However, in the case of black markets on the dark web, federal agencies — specifically, the Federal Bureau of Investigation (FBI), the Drug Enforcement Agency (DEA), and the Department of Homeland Security (DHS) — are exclusively equipped to enforce drug laws, because they possess the resources and expertise necessary to shut down dark web markets. Recall that dark web infrastructure is highly anonymous and that federal agents could only shut down Silk Road after gaining access to its administrative homepage via the login credentials on Ulbricht's seized laptop. Today, federal agencies continue to shut down dark web markets, but only from the inside, after infiltrating their root systems. Being the original black market on the dark web, Silk Road enjoyed a

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223 "Beyond Silk Road: The Potential Risks, Threats, and Promises of Virtual Currencies," Hearing Before the Committee on Homeland Security and Governmental Affairs, United States Senate, 113th Congress, November 18, 2013.
224 Joost van Slobbe, "The Drug Trade on the Deep Web: A Law Enforcement Perspective," in European Monitoring Centre for Drugs and Drug Addiction, "The Internet and Drug Markets."
225 "Beyond Silk Road," 11-25.
227 For instance, in 2017, the United States Department of Defense took down several major black markets on the dark web, including AlphaBay, after infiltrating their root systems. According to reports, the DOJ waited several weeks between infiltration and shut-down in order to collect information on users. Martin Kaste, "Justice Department
relatively long tenure before being taken down, in the wake of a three-year federal investigation.228 Because only federal agencies were equipped to enforce drug laws on the platform, and because that enforcement took years to enact, drugs on Silk Road circulated through a lacuna in state power that was jurisdictional and transitory in nature — on the one hand, the absence of non-federal agencies who could typically enforce drug laws, and, on the other hand, the temporal delay in looming federal enforcement.

Silk Road took additional steps to evade state power while conducting black market exchange on the platform. In a second lacuna, drugs circulated through a digital cryptocurrency designed to dodge state power. Unlike interpersonal drug exchange, drug transactions on Silk Road were technical processes with inevitable digital trails. Even as the black market was briefly immune to state takedown, individual merchants could still be identified and prosecuted through their financial dealings. Silk Road merchants accordingly conducted commerce in Bitcoin, a digital cryptocurrency that supports verifiable and anonymous transactions without a centralized third party.229 Bitcoin may be exchanged electronically between parties and without the direct involvement of banks or states, as the digital "wallets" that hold Bitcoin are currently not under the regulatory purview of either institution.230 Bitcoin may be sent over the internet with relative ease.

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228 United States of America v. Ross William Ulbricht. Federal agents testified to the length of the investigation during Ulbricht's federal trial.
229 "Beyond Silk Road."
230 Of course, the popular image of Bitcoin as a rogue or anti-institutional technology is fundamentally flawed, insofar as financial institutions and elite capitalists control a significant portion of Bitcoin trade. Further, it is likely that the United State Securities and Exchange Commission (SEC) will classify Bitcoin as a security, making it necessary for Bitcoin holders to claim their coins as assets during tax filings.
and stored in a digital wallet with relative anonymity, making the currency attractive to those looking to evade state surveillance online. Beyond the reach of the state and between the parties involved, Bitcoin allowed Silk Road drugs to be exchanged outside the purview of state records and state surveillance. Covert delivery practices (discussed at length in chapter 3) also allowed drugs to be exchanged without detection by the state. Silk Road drugs were often delivered through the postal system, which, according to vendors on the discussion board, tended to examine the contents of exchange less often than private couriers. In order to evade detection by postal authorities, vendors camouflaged drugs in the mail by padding envelopes, using discreet boxes, and concealing items inside a variety of containers meant to distract or deceive: tampon boxes, potato chips, and candy wrappers.231 The relatively small size of controlled substances made covert shipment a possibility. Here, state postal authorities fail to control the movement of contraband within their purview.

On Craigslist, drugs circulate through lacunae in state power related to the jurisdictional structure of law enforcement. Thomas Dart, the former sheriff of Cook County in Illinois, explained the jurisdictional problem of illegal activity on Craigslist when he filed an unsuccessful lawsuit against the company for facilitating prostitution.232 His statements in court help us understand the allocation of state resources at the level of

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231 See the discussion of postal delivery strategies in chapter 2 and 3.
232 Thomas Dart, Sherriff of Cook County v. craigslist, Inc., 665 F. Supp. 2d 961 (E.D. Ill. 2009). Although the court leaned on section 230 of the Communications Decency Act, it was in response to this legal case that Craigslist altered, and then shuttered, its Erotic Services section. The problem of digital law enforcement has also been taken up in studies of online sex trafficking. Abby Peter, "Policing the Virtual Red Light District: A Legislative Solution to the Problems of Internet Prostitution and Sex Trafficking," Brooklyn Law Review 77 (2012): 823-859. See also the discussion of Craigslist litigation in chapter 1.
local law enforcement. Municipal law enforcement agencies typically possess jurisdiction over local drug exchange. However, because these agencies rarely have the resources to track down internet users, and because federal agencies generally focus on the takedown of large black markets, drug traffic on Craigslist occurs in a jurisdictional gray zone — too large of a task for local authorities and too little of a problem for federal ones.

That Craigslist is willing to provide law enforcement agencies with whatever information they require matters little when those agencies lack the resources necessary to track down actors involved in online contraband exchange. The regulation of contraband by the state becomes less vigorous on local level, due to the resource limitations of municipal law enforcement agencies.

Craigslist actors take additional steps to protect themselves from state power. After all, even though local law enforcement agencies do not meticulously survey Craigslist, these agencies still operate in the places where Craigslist traders conduct illegal exchange. Local commerce means cash exchange: the technical trappings of Bitcoin and Paypal are unnecessary during face-to-face transactions, and cash is the preferred medium of exchange for criminal actors broadly, because cash is supremely easy to launder.

Local commerce also means that temporary mobile phone ("burners") and peer-to-peer messaging services play roles in the economy of Craigslist contraband exchange. Trading partners must arrange the details of the exchange and the interpersonal encounter in real time, and these temporary and encrypted media allow merchants to evade state power in so doing. Here, the evasion of state power informs the transactional

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233 "Beyond Silk Road," 11-25.
234 Thomas Dart, Sherriff of Cook County v. craigslist, Inc, 44-57.
235 "Beyond Silk Road," 16-25
and communicative dimensions of contraband. Finally, because Craigslist formally prohibits the exchange of illegal objects on the platform, drug vendors on the platform use obfuscated text, colloquial terms, and linguistic cyphers to evade platform filters. Coded terms, vague and ever-changing, are able to evade the site's automated protocol, formalized and static. Craigslist drugs consequently circulate through loopholes in digital protocols, in addition to gaps in state institutional control.

Lacunae in state power also make possible the digital exchange of weapons on internet markets. Despite the wide production and the minimal regulation of guns in the United States, the arms trade on Silk Road faced significant regulatory challenge. Firearms law in the United States requires a federal license to ship firearms across state lines, one of the few regulations by which gun retailers on the internet must abide. Unlike drugs, weapons cannot be hidden in candy wrappers and shipped in secret. Yet a condition in firearms law permits gun parts or "components" to be shipped without a license. Consequently, Silk Road vendors broke down weapons into their constituent parts, and shipped each part separately. Buyers were responsible for assembling the weapon on their own, a task covered in gun tutorials on firearm websites. This postal

238 Mayors Against Illegal Guns, "Trace the Guns."
240 Youtube also featured gun construction videos during Silk Road's tenure, although they began to restrict gun-related content in the 2017 and 2018. Valentina Palladino, "Youtube Expands Firearms Restrictions, More Gun Videos to Be Banned," Ars
hack is essentially a commercial version of packet switching, the computing process by which information is broken down into constituent bits for delivery and then reassembled upon arrival. Where the computational process exploits the small size of bits for speedy delivery through a digital network, the delivery method exploits the legal status of weapons parts for permissible delivery through a postal network. Drugs circulated through this exception in firearms law — a state regulation designed to control the movement of guns.

Where the arms trade on Silk Road relied on a postal loophole in firearm law, the arms trade on Craigslist relies on an the interpersonal loophole in firearms law — that weapons may be exchanged freely between private citizens.\textsuperscript{241} Firearms on Craigslist circulate through the regulatory exemptions of interpersonal weapon exchange, an abeyance in the state enforcement of firearms law. Further, because Craigslist is a local market that relies on face-to-face encounters, users of the platform are exempt from postal regulations, both the legal permits of online gun distributors and the obfuscation strategies of Craigslist merchants. Craigs formally prohibits weapons, just as it prohibits drugs and other illegal items.\textsuperscript{242} Indeed, weaponry is the first group of items on the platform's list of prohibited objects, suggesting that the platform recognizes the existence of an arms trade on its site. In its Prohibited policy, Craigslist forbids the exchange "weapons; firearms/guns and components; BB/pellet, stun, and spear guns; etc." and


\textsuperscript{241} Wintemute, \textit{Background Checks for Firearm Transfers}.

\textsuperscript{242} Craigslist, "Prohibited."
"ammunition, clips, cartridges, reloading materials, gunpowder, fireworks, explosives".243

Yet firearms advertisements appear regularly on the platform, often without textual obfuscation, in places such as New York, Texas, and Georgia. The explanatory logic of firearms circulation finds a limit in the platform's black box filter. It is possible that the filter errs on the side of *laissez faire* and that some weapon advertisements are indeed taken down. What is evident, however, is the presence of an arms trade that evades state and platform regulations alike.

On eBay, weapons circulate through a different lacuna in state power. eBay mainly features auxiliary protective gear and defense equipment. The items that qualify as contraband are those that the military produces for internal use only. According to 2008 report by United States Governmental Accountability Office, eBay circulates a variety of sensitive military equipment: F-14 antennas, biological chemical gear, and body armor plates, some of which are in demand by enemies of the US.244 This is equipment that is regulated by the military, but that escapes the military's system of object control, presumably through theft and mishandling. (However informative, the GAO survey does not detail the internal military policies surrounding the regulation of sensitive defense equipment.) Although the report is dated, restricted military equipment continues to appear on the platform, contrary to eBay's formal ban on illegal objects.245 Following black market logic, military gear is often more valuable than firearms, precisely because firearms are so widely produced. For instance, a 2017 auction for a

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243 Craigslist, "Prohibited."
244 United States Governmental Accountability Office, "Internet Sales."
Kevlar helmet directly indicates its exclusive use in the military. As on Craigslist, the platform's black box filter prevents a clear expansion of this state of affairs. It is possible that the filter is more permissive than restrictive in determining what objects are allowed to circulate in the auction market. Regardless, these pieces defense equipment circulate through a breakdown in the state regulation of objects—in particular, the military regulation of objects.

In all of these cases, the circulation contraband on internet markets follows from a failure of state institutions to regulate the objects that they outlaw. This failure is the exception, not the rule, as the state conventionally wields its legal authority to effectively prevent the circulation of contraband. Platforms likely take down more contraband than they passively allow to circulate, cooperating with law enforcement authorities when necessary. Yet state institutions feature jurisdictional structures, resource limitations, and legal exceptions that make possible the online circulation of contraband. Contrary to the cyberlibertarian vision of a self-regulating and self-contained internet platform, the regulatory endeavors of state institutions figure centrally in the digital exchange of contraband.

Whose Objects?

Cyberlibertarianism casts internet markets as self-regulating and self-contained spheres of digital activity, discrete zones of electronic commerce that are immune to regulatory concerns and external interferences. Central to the cyberlibertarian vision of an internet platform in perpetual equilibrium is the absence of institutions—those bugbears of libertarianism and cybernetics that are said to undermine the integrity of economic and
technological systems. Craigslist, eBay, and Silk Road variously subscribe to this cyberlibertarian vision, even as they cooperate with state institutions and operate according to corporate structures. The dream of fully automated commerce is also a dream of commerce beyond institutional involvement. Yet state, commercial, and domestic institutions figure centrally in the circulation of objects on internet markets. These institutions take steps to control the movement of goods within their purview. These steps range in character from vigorous to casual, but they make institutions key players in the regulatory drama of internet markets.

Contraband is the most conspicuous case of institutional and regulatory drama, as states invest significant resources in the regulation of contraband yet fail to comprehensively undercut the movement of outlawed goods. In such cases, black market actors not only exploit the circumstantial absence of institutional control but take additional steps to evade state detection. The interplay of institutional control, actor strategy, and market activity in the context of contraband exchange exemplifies the regulatory drama of internet markets. That contraband circulates across Craigslist, eBay, and Silk Road alike demonstrates the relationship between electronic commerce and regulatory exception: objects enter the free digital market in moments when institutional control falls short, changes orientation, or exceeds expectation. Anomalies in institutional regulation helps underwrite objects in digital circulation. A strange day for one is a typical day for the other.

The digital free market shows us how institutions enter into the exchange process through the provision of market objects. This is important, because internet markets are designed to make regulations and institutions obsolete. If institutions make oblique
appearances in the very place where they are supposed to be irrelevant, then it is likely that electronic commerce will always be connected to institutions in some fashion. The role of institutions in digital exchange may be obvious in the context of postal delivery systems, which help transport the objects sold online; but it is less obvious in the context of object provision, as institutions help furnish the goods that make digital exchange possible. In addition to discourses and infrastructures, then, institutions can play important roles in the circulation of commodities on the internet. With material interests and regulatory powers, institutions are not neutral backdrops but motivated actors in digital exchange. As we saw in the last two chapters, users and platforms sometimes rely on institutions to control the commercial process, as when Craigslist merchants meet in front of local police stations or when eBay tailors its policies to corporate structures. But this is not all: institutions themselves enter the theater of electronic commerce and exert regulatory control over the movement of objects. The digital free market also show us how institutional regulatory control can break down, alter course, or surpass expectation. On internet markets, institutions can fail to realize their regulatory goals, shift their regulatory strategies, or perform regulatory functions without prior intention. This helps us understand how institutions work in the context of electronic commerce — and how they fail.
According to cyberlibertarianism, internet markets should be self-regulating and self-contained spheres of digital economic activity. Yet exchange platforms are scenes of regulatory drama, as actors of all stripes — individual, institutional, casual, and dedicated — take steps to control the commercial process and alleviate concerns of fraudulent exchange. Automated protocols, designed to replace regulations, end up being the very means by which economic conflict occurs. Website infrastructure and platform culture, figured by cyberlibertarianism as neutral backdrops of exchange, end up being vital resources for actors intent on controlling the commercial process. State, commercial, and domestic institutions, cast as irrelevant to an autonomous internet by the digital ideology, end up furnishing many of the objects involved in internet exchange. Far from the cyberlibertarian vision of digital exchange beyond regulations and institutions, internet markets are embedded spheres of electronic commerce, which implicate control mechanisms and external factors in their core operations. My critique of cyberlibertarianism, rooted in the dynamics of internet markets, has broader consequences for how we understand the digital ideology, the dynamics of electronic commerce, and the role of regulations and institutions on the internet.

As venues that actualize cyberlibertarian principles, internet markets are ideal case studies of the digital ideology. The actualization of cyberlibertarian principles is important, because advocates of the digital ideology are wont to complain that regulations prevent the emergence of an internet equilibrium. Karl Polanyi noted this tendency in his midcentury critique of free market libertarianism, which always insists
that its theory will be realized, once the next regulation is removed (and the next, and the next).\textsuperscript{246} By meeting the \textit{laissez faire} conditions demanded by cyberlibertarianism, internet markets are experiments in the digital ideology that decisively disprove its predictions. They foil the cyberlibertarian excuse that internet regulations are standing in the way of an autonomous digital sphere. If the predictions of cyberlibertarianism cannot be realized in the free digital market, then they likely cannot be realized anywhere. This makes internet markets valuable objects of study: they uniquely actualize the tenets of cyberlibertarianism and, in so doing, demonstrate significant flaws in the influential paradigm. Moving forward, they may serve as a counterpoint to the claim that an internet equilibrium is just one regulatory removal away.

Nearly two decades ago, Lawrence Lessig penned a classic work on internet regulation. In \textit{Code and Other Laws of Cyberspace}, Lessig critiqued the idea that conventional regulations \textit{could not} touch the internet.\textsuperscript{247} Several years later, in the preface to the second edition of \textit{Code}, Lessig noted that he had originally set out to evaluate the fashionable notion that "cyberspace was beyond the reach of real-space regulation"\textsuperscript{248}. Popular ideas about the internet have considerably changed since the original publication of \textit{Code}. Today, one popular idea is that regulations \textit{ought not} touch the internet — an idea that I characterize as cyberlibertarianism. Central to this ideological imperative is the rejection of regulations and institutions on the internet. In this line of thought, internet activity, including commercial activity, is fundamentally cooperative, making regulations

\textsuperscript{248} Lessig, \textit{Code and Other Laws of Cyberspace}, ix.
effectively unnecessary, and making institutions largely obsolete. Peter Thiel's vision of a libertarian island nation is a nice material analog to the vision of internet platforms as self-regulating and self-contained spheres of digital activity.

Still, cyberlibertarianism is changing. For instance, internet platforms have begun to install increasingly sophisticated systems of content moderation.\(^{249}\) *Laissez faire* might be the company line, but the company practice is quite different. This recalls a paradox of cyberlibertarianism, discussed in the introduction: internet platforms insist on immunity from state regulations, even as they cooperate with state institutions in various ways. The state is also whistling a different tune when it comes to platform liability. Recent legislation introduced an exception to Section 230 of the Communications Decency Act by eliminating platform immunity in cases of human trafficking.\(^ {250}\) This is the very first crack in the legal edifice of Section 230, upon which platforms have relied to defend their autonomy against state interference. Mark Zuckerberg's 2018 Congressional testimony captures some of the changes in cyberlibertarianism as they unfold within states and platforms. Although the questions posed by members of Congress were far from sophisticated, the governmental demand that Facebook account for its mismanagement of data denotes an institutional willingness to, at the very least, have a conversation about internet regulation, institutional oversight, and platform responsibility. Zuckerberg's token response to the problem of regulation was not self-regulation by users (as it was in 2010) but self-regulation by automation — specifically, artificial intelligence tools.

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designed to monitor and analyze content. This answer, which I discuss in more detail below, suggests an active approach to platform regulation that does not simply rest on the combined decisions of users. In this respect, cyberlibertarianism is coming to feature another paradox: platforms insist that they are basically self-regulating, but they install regulatory controls nonetheless. As with the paradox of the state, platforms want to be seen as self-regulating and get credit for installing regulations. "We don't need regulations," the new company line seems to run, "but we're going to install them anyway."

If cyberlibertarianism overlooks the role of regulations and institutions on the internet, then actors outside of the technology industry should insist on the reality of regulations and institutions in order to create a fair and cooperative internet. Part of the critical intellectual tradition consists of identifying the ideological assumptions that structure social life. Cyberlibertarianism is an ideology that structures social life in its technological aspect. It is crucially important that we understand cyberlibertarianism — not only because technology companies have major public platforms upon which to espouse their views and defend their practices, but also because other forms of thought share assumptions with cyberlibertarianism. My argument in this project identifies the subtle parallels between cyberlibertarianism and certain scholarly formulations. In pointing out these parallels, I do not mean to suggest that these formulations of thought should be dismissed as unwitting puppets of the digital ideology. Rather, I mean to demonstrate that cyberlibertarianism is far from a pet theory of motivated technology actors. It cannot be reduced to an ideological pawn that serves the economic interests of Silicon Valley (although it certainly does serve those interests). Cyberlibertarianism
should instead be understood as a compelling way of thinking about technology and society, which variously influences internet policy, public debate, and scholarly research.

In the context of internet markets, cyberlibertarianism shares key assumptions with electronic reputation studies, free labor theory, and accounts of digital economy, digital labor, and digital commodities. Cyberlibertarianism and electronic reputation studies converge on a view of internet exchange, including economic exchange, as fundamentally cooperative. Here, in the absence of conflict, regulations and institutions have little importance as mechanisms of cooperation that are grounded in productive authority. These paradigms overlook the important difference between regulations, which can be enforced by jurisdictional institutions, and protocols, which can only be embedded into computational systems. Code, as Lessig had it, is indeed a kind of law — but a law without a regulatory institution to enforce its conditions. In Kojin Karatani’s political terms, code is law in the “nation” sense of guiding behavior but not in the “state” sense of enforcing behavioral standards. In overlooking this distinction, cyberlibertarianism and electronic reputation studies are unable to account for the manipulation of platform protocols, whereby actors take advantage of institutional absence to avoid regulatory consequence. In particular, the idea that rating systems can replace status codes misses the regulatory enforcement that face-to-face communities are able to enact. Recognizing the difference between protocols and regulations can set the groundwork for platforms regulations that are actually effective and that don't rely on a vision of fully automated commerce.

Meanwhile, in its focus on monetization, free labor theory ultimately forwards an economic functionalism, in which all internet activity contributes to the online production
of capital. Tiziana Terranova frames internet platforms as economic whirlpools that drag all activity into their monetizing currents. Despite its roots in the critical tradition, this framework is not so different from the cyberlibertarian vision of internet markets as self-contained economies. The upshot of both paradigms is that economic forces are fundamental and non-economic forces are marginal. Yet internet markets demonstrate the importance of non-economic forces in the operations of digital exchange. The claim that economies are embedded is far from original, but, in the context of the internet economy, the claim needs to be asserted as a counter to an economic functionalism that privileges the movement of capital as proper to internet platforms. Here, economic functionalism neglects the role of regulations and institutions online, unless they play conspicuous parts in digital monetization.

The conceptual focus on resource allocation continues in accounts of digital economy and digital labor. These accounts generally sideline infrastructures, cultures, and institutions in their emphasis on the location and provision of economic resources online. As functions of institutions, regulations play even less of a role in many of these accounts. Such accounts are willing to recognize the role of non-economic factors, but as conditions that set the scene rather than as elements that drive the narrative — as prelude, not as plot. *Wikinomics* makes no mention of regulatory concerns over data brokerage, and *The Rise of the Network Society* assumes that immaterial and material objects will float through global networks without regulatory stopgaps.\(^{251}\) Accounts of digital labor fare better in this evaluation. Lily Irani and Sarah Roberts consider the infrastructure and

the culture of technology work, but they mainly focus on the economic value generated in these outsourced spheres.\textsuperscript{252} Although many of these writers would certainly recognize the embedded nature of the digital economy and digital labor, this recognition does not necessarily play out in their analyses. The conceptual focus on economic resource distribution can overlook the ways that non-economic factors enter into that distribution. In the context of the internet, scholars should follow the money — but keep going once they find it.

The discursive tradition and the infrastructural traditions of commodity analysis are more willing to consider the role of non-economic factors in the circulation of consumer objects. Still, these traditions tend to treat commodities as symbolic objects or systemic objects, rather than as institutional objects. When institutions do enter the picture, they are sites rather than agents: commercial institutions produce objects, and domestic institutions consume them. This brings us back to the lacuna of exchange, discussed in the introduction: the sphere of production and the sphere of consumption are well covered in the scholarship, but the sphere of circulation is less comprehensively studied. Institutions operate differently in the context of circulation, as they take on the messy task of controlling the movement of objects. State institutions, in particular, face a staggeringly complex task in the control of contraband circulation. As black markets, exchange platforms underline the relevance of state institutions to the study of commodities. More broadly, insofar as institutions provide many of the objects that

circulate in the free digital market, exchange platforms encourage us to think about commodities as symbolic, infrastructural, and institutional objects. To overlook the role of institutions in the circulation of commodities on the internet is to risk a cyberlibertarian formulation, in which exchange platforms play host to the movement of goods beyond the banal realities of institutions.

Cyberlibertarianism, then, is not a pipe dream of technologists but an appealing framework for understanding technology and society. Those who are interested in an equitable internet must understand the appeal of cyberlibertarianism in order undermine its influence. The appeal of cyberlibertarianism is partially rooted in its relationship to other ideologies and its simplicity as a conceptual framework. First and foremost, the digital ideology draws on the celebration of the market as an engine of prosperity; this celebration continues today, even after the decline of free market fundamentalism in the Hayekian vein. It is not a far leap from a self-regulating market to a self-regulating internet to a self-regulating internet platform. The celebration of the market, in turn, draws on the classical liberal formulation of negative liberty, which defines freedom as the absence of authority, including institutional authority. Here, freedom and control are mutually exclusive forces that are in perpetual competition with one another.

Cyberlibertarianism follows in the footsteps of market ideology and negative liberty by making an absolute distinction between internet freedom and institutional control. This way of thinking about freedom and control is seductively simple: it creates a storybook narrative of good actors and bad actors, and it pins all problems of technology and society on the overbearing control tendencies of the bad actors.

Individuals invested in a cooperative internet must understand the appeal of cyberlibertarianism in order to create new frameworks that may counter its influence. We need to think of compelling ways to frame technology and society that demand accountability from actors in industry and in government. We need to be critical of state power without framing institutions as fundamentally burdensome; and we need to forward a view of positive liberty online, according to which institutional involvement underwrites individual freedom on the internet. We need to be open to regulations without framing them as panaceas to structural problems, which would only contribute to the regulatory capture being executed by technology companies today. It is certainly easier to create a seductive theory that is simple in nature, but the situation is too nuanced and the stakes are too high for watered-down formulations. If we don't influence the conversation around technology and society, then powerful actors with deep pockets and compelling ideologies will.

One place to enter the conversation is contemporary discussions surrounding automation. Part of what distinguishes internet markets from conventional markets is their attempt to fully automate exchange and thereby facilitate commerce without regulations and institutions. Blockchain advocates understand automation as a means to outmode regulations and institutions in the context of electronic commerce. The blockchain is a public ledger that records every cryptocurrency transaction and is, undoubtedly, an important technological development.\textsuperscript{254} However, for many blockchain advocates, the public ledger is a viable replacement for regulations and institutions.

because the technology makes all transactions open and transparent. In this line of thought, contracts are unnecessary when the blockchain is recording all transactions, and courts are obsolete when the blockchain serves as a public record of exchange. For advocates of the technology, the blockchain protocol promises to automate trade and transcend the banalities of contract and court. The dream of fully automated commerce lives on. In contrast to this dream, we should underline the shortcomings of automation and highlight the differences between protocols and regulations. We should also consider the role of the state in electronic commerce without subscribing to a blanket opposition to institutional involvement.

In his 2018 Congressional hearing, Mark Zuckerberg positioned automation as a clean technological solution to complex structural problems related to content moderation. The idea that automation will comprehensively solve platform dysfunction relies on a cyberlibertarian vision of a digital system in perpetual equilibrium. We should counter this vision by highlighting the problems of internet conflict — not only harassment and hate speech, but also deception and fraud, which treat automated protocols as raw materials rather than definitive barriers. Paradoxically, by affirming the reality of conflict on the internet, we can make inroads to a more cooperative web. In this respect, contemporary studies of platform cooperativism could benefit from a broad recognition of internet conflict, which will continue to be a problem on democratically owned platforms. Internet conflict can become a point of departure for broader

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256 Trebor Scholz and Nathan Schneider, eds., *Ours to Hack and to Own* (New York: OR Books, 2017).
conversations surrounding platform governance, understood as regulations that are institutionalized on the level of platforms.

Internet markets showcase the flaws of cyberlibertarianism, and they help us understand the root structure of the digital ideology — its core assumptions, its idealized visions, and its seductive qualities. Cyberlibertarianism is a sleek way of thinking about the relationship between technology and society in an increasingly complex world: innovation and freedom are good, institutions and regulations are bad, and the internet, to revise Stewart Brand's formulation, wants to be free. Internet markets offer an alternative account of freedom and control in the context of electronic commerce, and they help us reframe the relationship between technology and society without the biases and blind spots of cyberlibertarianism. The past decade witnessed considerable changes in conversations surrounding technology, and the next decade will likely follow suit. As cyberlibertarianism changes form, there is an opportunity to shift the dialogue in a nuanced and cooperative direction. The state and the public are no longer willing to sit back and let technology companies sidestep issues of accountability. At this critical juncture, free digital markets help us understand the stakes of an unregulated internet, and they furnish evidence that allows us to reframe conversations surrounding technology. A new digital framework should ask what makes electronic commerce equitable or unfair, what makes platforms functional or dysfunctional, what makes the internet cooperative or conflictual, and what makes technological life liveable or, all too often, unliveable.
APPENDICES

Appendix I
Discussion Boards

Craigslist, eBay, and Silk Road each feature an internal discussion board on their respective web domains, as well as auxiliary discussion boards on the Reddit web domain. They each feature hundreds (in some cases, thousands) of conversational threads, and they reach back to the origins of the markets themselves, or to the origins of Reddit in the 2005. In these discussion boards, merchants have *carte blanche* freedom to discuss anything that they please, from commerce and technology to culture and politics, as well as critiques and complaints about the hosting platform. Understandably, most discussion board conversation revolves around commerce, that being, after all, the topic that unifies these internet merchant. Discussion boards are attractive research sources, because they feature *organic* and *topical* conversations among *many users*, including *experienced users*, over an *extended period of time*.

As organic discursive phenomena, discussion board conversations constitute naturally occurring talk, understood as "informal conversation which would have occurred even if it was not being observed or recorded, and which [is] unaffected by the presence of the observer and/or the recording equipment"\(^{257}\). Naturally occurring talk offers a window into the experiences, practices, and attitudes of interlocuters, without the

mediation of the researcher and concomitant liabilities of her observing presence.

Discussion board conversation unfolds without the onus of being an object of observation. Naturally occurring talk should not be cast as purer than other sources of data that include observation,^{258} but it is useful for capturing extemporaneous interactions between speakers.

From a methodological perspective, there are important limitations and drawbacks to discussion board conversations. As digital discursive phenomena, discussion board conversations do not include "the details of talk"^{259}, such as pauses and non-verbal expressions, which can offer insight into user attitudes. In addition to being uniquely polished, discussion board conversations are unevenly distributed: not all users participate in discussion board conversations, and, among those who do participate, some contribute more than others. Further, as crowd-sourcing venues, discussion boards feature what might be called the problem of experiential extremes. In a typical case of a discussion board thread, a very inexperienced user asks a question, to which a very experienced user offers an answer. Here, middle-ground perspectives are absent, and discussion board analysis risks an over-emphasis on user extremes (naïveté and expertise). Further, as crowd-sourcing mechanisms, discussion board conversations are often oriented around problems. For instance, users may come to discussion boards after they have been defrauded, in order to vent, complain, or fix their commercial mistakes.


Here, successful exchange is absent, and discussion board analysis risks an over-emphasis on market breakdown. The problems of experiential extremes and market breakdowns informed my processes of data collection, as discussed below. Despite these problems, discussion boards are valuable sources of internet research, and there are many precedents for analyzing user conversations in order to understand platforms.\(^{260}\)

In order to identify trends in user activity on internet markets, I ran a total of eighteen (18) web crawls — three on each of the six discussion boards. These crawls were custom-built scripts in Python and Java, and they utilized a series of computational tools to pull data out of HTML files and render them in manageable parse trees. These tools included Celery, an asynchronous task queue that executes multiple jobs at once; RabbitMQ, a messaging agent that manages these tasks; and Docker, to help coordinate these programs. Given that thread conversations on discussion boards follow a comment-response cycle, I designed the scripts to render whole threads rather than singular posts, and this allowed me to capture the ebb and flow of naturally occurring web discourse.\(^{261}\)

In effect, the scripts crawled (went through page by page) the discussion boards and rendered (put into a separate document) all of the conversations that included select keywords. When crawling the internal discussion boards of Craigslist and eBay, I incorporated temporal boundaries and only rendered threads composed after 2010,

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around the time that Craigslist and eBay solidified their internet presence, as discussed in the case studies section. Temporal boundaries helped limit the number of threads rendered from these expansive and longevous discussion boards, which began in the 1990s.

I ran these scripts in groups of six at three different intervals. Let's go through my logic for each script, foregrounding methodological processes in the spirit of Cho and Trent, before discussing data analysis and interpretation. I used an iterative criterion sample to guide my data collection during the web crawls.\(^{262}\) That is, I sampled discussion board data based on a criterion (the inclusion of certain keywords) and ran multiple iterations of web crawls based on the findings of the preceding crawl(s). Collecting data in waves helped "clarify the main patterns, see contrasts, identify exceptions or discrepant instances, and uncover negative instances — where the pattern does not hold"\(^{263}\). The criterion was theoretically driven: I began with general concerns, and then developed orienting concepts as I went along.\(^{264}\) This process ran as follows.

Motivated by the relative absence of research on internet fraud,\(^{265}\) I began with a series of keywords related to topic: fraud, scam, con, trick, and their semantic variations. In this first wave, I ran web crawls with fraud-related keywords on each of the six


\(^{263}\) Miles and Huberman, *Qualitative Data Analysis*, 29.


discussion boards under study: the internal discussion boards and the Reddit boards of Craigslist, eBay, and Silk Road. It should be noted that the Silk Road discussion board that I crawled was an archived version of the original site, and, while the subreddit is technically active, all of the posts from the Silk Road era were archived by Reddit. In analyzing and interpreting these fraud-related threads, I noticed that users developed commercial practices related to fraud evasion and market success. This lead to my second set of crawls, which rendered threads with the following keywords: trust, honest, fair, cooperative, good, best, and their semantic variations. This second round helped counter the problem of market breakdown on discussion boards, or their tendency to foreground failure and malfunction. In analyzing and interpreting these cooperation-related thread, I found that users had different opinions on the matter, depending on their position as buyer or seller. This lead to my third round of crawls, which rendered threads with the following keywords: seller, vendor, sales, work, labor, business, and their semantic variations. Each of these web crawls rendered between two hundred and three thousand threads related to the topical keywords.

After developing a corpus of posts, I pattern-coded the parsed data with themes that emerged progressively during the initial review. The data was rendered in a Microsoft Word document, and I included pattern codes in the top left hand of the document. (See coding protocol below.) I developed the pattern code in an iterative fashion, moving between the collected data and my interests in electronic commerce. This lead to the identification of typical case samples, which exemplified user activity in

267 Miles and Huberman, Qualitative Data Analysis.
the context of fraud, cooperation, or labor.\textsuperscript{268} I concluded the pattern-coding when I reached a saturation point, having had repeated (and decreasingly valuable) encounters with the same set of accounts of user activity.\textsuperscript{269} Each waves of crawls generated evidence that exceeded the concerns of its original criteria. In analyzing fraud, I came across patterns of user customs and collective intelligence; in analyzing customs and intelligence, I came across patterns related to labor and sales; in analyzing labor and sales, I came full circle to patterns about fraud and customs. Through them all, I came across patterns about systems and objects, those mute shadows of user activity.

Following collection, I employed a critical, interpretive approach to these case samples. Drawing on textual analysis, I sought to identify patterns in user activity, understood as a triplex of user experience, user practice, and user attitude.\textsuperscript{270} These patterns were often explicit, as when users simply recounted what they did, how they did it, and what they thought about it. Sometimes, these patterns were implicit, as when user statements evinced deeper assumptions about commerce or technology. In those cases, I followed Stuart Hall in considering the ideological "deep-structure" of discussion board statements — their operative assumptions, embedded in the social and institutional contexts of their utterance.\textsuperscript{271} Like critical discourse analysis, this type of analysis respects the veracity of actors while remaining remaining attentive to their underlying social position and material interests.\textsuperscript{272} Unlike critical discourse analysis, it does not rely

\textsuperscript{268} Miles and Huberman, \textit{Qualitative Data Analysis}.

\textsuperscript{269} Glaser and Strauss, \textit{The Discovery of Grounded Theory}.


\textsuperscript{271} Stuart Hall et al., \textit{Policing the Crisis} (Basingstoke: Palgrave McMillan, 2013).

\textsuperscript{272} David R. Howarth, \textit{Discourse} (Buckingham: Open University Press, 2010).
on a formalized semantic code to unveil latent meaning; rather, it uses humanistic interpretive methods to navigate the explicit and the implicit dimensions of a text.\textsuperscript{273}

The question of ethics accompanied the collection of discussion board data. Users were not entirely anonymous, because their statements were connected with their profiles, and their profiles were connected to an active email. That said, users were relatively anonymous, given the distance between identity and avatar.\textsuperscript{274} Craigslist, eBay, and Reddit users posted in a public forum, "open and available to anyone with an internet connection"\textsuperscript{275}, with the knowledge that it would be read by others, although not necessarily analyzed by others. Silk Road users posted in a semi-public forum, "available to most people"\textsuperscript{276} with the technical know-how to navigate to the dark web. That data is public or semi-public does not mean researchers have \textit{a priori} permission to use the data in their work.\textsuperscript{277} Privacy is a matter of "expectations and consensus"\textsuperscript{278}, and internet research needs to be attuned to the propriety of information flows.\textsuperscript{279} In the case of the discussion boards, there was an evident public or semi-public quality, as well as a relatively high degree of anonymity — either by virtue of the avatar/identity distance, or

\textsuperscript{273} Fürsich, "In Defense of Textual Analysis."
\textsuperscript{275} Malin Sveninsson Elm, "How Do Various Notions of Privacy Influence Decisions in Qualitative Internet Research?" in \textit{Internet Inquiry}, eds. Annette Markham and Nancy Baym (Thousand Oaks: Sage, 2009), 75.
\textsuperscript{276} Elm, "How Do Various Notions of Privacy Influence Decisions in Qualitative Internet Research?" 75.
\textsuperscript{277} Annette Markham and Elizabeth Buchanan, "Ethical Decision-Making and Internet Research: Recommendations from the AoIR Ethics Working Committee (Version 2.0),” (August 2012), \texttt{http://aoir.org/reports/ethics2.pdf}.
\textsuperscript{278} Annette Markham and Elizabeth Buchanan, "Ethical Decision-Making and Internet Research,” 7. Elm, "How Do Various Notions of Privacy Influence Decisions in Qualitative Internet Research?"
by virtue of anonymizing dark web protocols. Still, in order to protect user expectations of privacy, and to ensure reasonable distance between individual, avatar, and research data, I followed others in internet studies and refrained from citing individual discussion board numbers, as these would shorten the figurative distance between individual and research data.²⁸⁰

The nature of the discussion differed between venues and platforms. Craigslist and eBay users discussed a set of commercial concerns that were not particularly sensitive, given the general social acceptability of internet exchange.²⁸¹ Silk Road users discussed a set of commercial concerns that were particularly sensitive, given the illegal nature of contraband exchange. I found that two factors mitigated this ethical issue. First, users who posted on the Silk Road discussion board could only do so through a Silk Road account, which required a dark web address for registration; this added a level of anonymity to posts. Users who posted on the Silk Road subreddit did not have this anonymous protection, but they posted on a public forum with less expectations of privacy. Second, the Silk Road discussion board is an inactive website, making it even more difficult to trace the connection between an avatar relic and an anonymized user.

On both the internal discussion board and the Silk Road subreddit, all users were a priori former users. Like public circulation, temporal distance does not give researchers


permission to use data sets, but it does lessen the stakes of admitted illegal activity.\textsuperscript{282}

Between the expectations of privacy, the anonymizing technologies, and the archived nature of the websites, I determined that discussion board conversations related to Silk Road could be ethically collected. More broadly, given the proper storage and management of the data, I found that discussion board conversations qualified as ethical sources of research.

\textit{Crawl Details}

\begin{tabular}{l l l}
\hline
\textbf{Website} & \textbf{https://forums.craigslist.org} \\
\textbf{Technical Elements} & \textbf{Python (Celery, RabbitMQ, Docker)} \\
\textbf{Keywords} & \textbf{Dates} & \textbf{Renders} \\
Fraud, scam, trick & July 2017 & 905 \\
Best, good deal, fair & August 2017 & 488 \\
\hline
\end{tabular}

| Seller, vendor, work | October 2017 | 654 |

**Craigslist Reddit**

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<th>Website</th>
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<tbody>
<tr>
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<td>Python (Celery, RabbitMQ)</td>
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<th>Dates</th>
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</thead>
<tbody>
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<td>248</td>
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<tr>
<td>Best, good deal, fair</td>
<td>August 2017</td>
<td>112</td>
</tr>
<tr>
<td>Seller, vendor, work</td>
<td>October 2017</td>
<td>186</td>
</tr>
</tbody>
</table>

**eBay Discussion Board**

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</tr>
</thead>
<tbody>
<tr>
<td>Technical Elements</td>
<td>Java (Celery, RabbitMQ, Docker)</td>
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<table>
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<tr>
<th>Keywords</th>
<th>Dates</th>
<th>Renders</th>
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<tbody>
<tr>
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<td>1022</td>
</tr>
<tr>
<td>Best, good deal, fair</td>
<td>August 2017</td>
<td>356</td>
</tr>
</tbody>
</table>
eBay Reddit

Website: https://www.reddit.com/r/Ebay

Technical Elements: Python (Celery, RabbitMQ)

Keywords: Fraud, scam, trick
Dates: July 2017
Renders: 296

Keywords: Best, good deal, fair
Dates: August 2017
Renders: 183

Keywords: Seller, vendor, work
Dates: October 2017
Renders: 205

Silk Road Forum

Website (original): http://dkn255hz262ypmii.onion

Website (archived): https://www.gwern.net/DNM-archives

Technical Elements: Python (Celery, RabbitMQ, Docker)
Keywords | Dates | Renders
--- | --- | ---
Fraud, scam, trick | July 2017 | 176
Best, good deal, fair | August 2017 | 97
Seller, vendor, work | October 2017 | 112

Silk Road Reddit

Website (presently) | https://www.reddit.com/r/deepweb
Website (formerly) | http://www.reddit.com/r/silkroad

Technical Elements | Python (Celery, RabbitMQ)

Keywords | Dates | Renders
--- | --- | ---
Fraud, scam, trick | July 2017 | 84
Best, good deal, fair | August 2017 | 68
Seller, vendor, work | October 2017 | 47

Coding Protocol
1. Establish that the post concerns the keyword topic: fraud, cooperation, selling, objects.

2. Mark the post as relating to one of the keywords.

3. Identify patterns within the marked posts to develop subcategories.

4. Mark the keyword-marked post as relating to one of the subcategories.

5. Stop when the subcategorized posts stop exhibiting diversity.
Interviews

Twenty-seven semi-structured interviews with internet merchants constitute the second major source of research data. I followed IRB protocol at each stage of interview research, from contacting participants to storing data, and I received IRB approval from the University of Pennsylvania. Where the discussion boards offered a breadth of data related to user activity, the interviews offered a depth of data related to user activity. This allowed me to hone in on the experiences, practices, and attitudes of individual users. On the one hand, these interviews had an emic dimension, being concerned with platform activity from the first-person perspective of individual users, each with their own idiosyncratic circumstances, practices, and viewpoints. In this capacity, the interviews gave me insight into the life-world of users and permitted me to "explore the meaning(s) participants give to ideas and terms." This was helpful, for example, in understanding how users thought about fraud. User perception plays a role in platform activity, blurring the boundaries between the internal world of users and the external world of platforms. On the other hand, these interviews occurred within the broader etic orientation of the research study, concerned with platform trends more than user perception. In this

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283 "Online Interviews with Craigslist and eBay Users," approved by the Institutional Review Board, University of Pennsylvania.
284 Cho and Trent, "Validity in Qualitative Research Revisited."
286 Griffin, "Being Dead and Being There: Research Interviews, Sharing Hand Cream and the Preference for Analyzing 'Naturally Occurring Data,'"
capacity, the interviews were valuable as triangulation mechanisms, as users elaborated on platform trends identified in other sources.\textsuperscript{287} Conducting semi-structured interviews over a seven-month period meant speaking to users about particular phenomena as patterns emerged in the research. Still, my concern in those cases was with depth of data: had users encountered this phenomenon, and, if so, what did they think about it? Participant responses lead me in unexpected directions: some patterns appeared significant but were not confirmed by users; and other patterns appeared insignificant but turned out to be major concerns for users. Here, triangulation supported, but did not conclusively guarantee, the identification of trends, whether expected or unexpected.

I selected interview participants first through a theoretical sample and then through a sequentially-driven conceptual sample.\textsuperscript{288} In the theoretical sample, I sought out \textit{experienced users} of internet markets, understood as users who had been on Craigslist or eBay for over seven years. These participants were "encultured informants"\textsuperscript{289} who had command over platform activity and "access to information"\textsuperscript{290} derived from their time on the site. In order to locate experienced users, I posted a call for interview participants on four discussion boards: the internal discussion boards and the subreddits of Craigslist and eBay. From this round of posting, I found thirteen users (seven from Craigslist and six from eBay) who fit my criteria, and I conducted interviews with them over the course of four months. Reddit was my most effective recruitment venue, as nine of the thirteen

\textsuperscript{287} Atkinson and Coffey. "Revisiting the Relationship Between Participant Observation and Interviewing."
\textsuperscript{288} Miles and Huberman, \textit{Qualitative Data Analysis}.
\textsuperscript{289} James Spradley, \textit{The Ethnographic Interview} (Boston: Holt, Rinehart and Winston, 1979).
users contacted me through my advertisement on the site. These participants ranged in age from 20s to 60s, and nine of the thirteen participants were men. In order to enhance the credibility of my findings, I sought interview participants who would "reflect a variety of perspectives". While the age range of the first sample was relatively varied, the gender composition was not. Both men and experienced users were over-represented in the sample, and this informed the next stage of recruitment. I returned to the discussion boards and, through another set of advertisements, took a conceptually-driven sequential sampling of women users and inexperienced users. In other words, my "initial choice of informants lead [me] to similar and different ones" as points of comparison and contrast. From this round of posting, I found eight users (four from Craigslist and four from eBay). Five of them were experienced women users, two of them were inexperienced men users, and one of them was an inexperienced woman user. These interview took place over the course of two months. My last round of interviews occurred over a month and proceeded according to a different conceptual frame — not the characteristics of users but of objects. I identified typical advertisements for secondhand and antique goods on eBay and Craigslist, and I contacted the users who posted those objects for sale. Among those who agreed to be interviewed, two were men, and four were women. These participants, ranging from expert dealers to casual resellers, contributed to the experiential and gendered variety of the sample. I concluded the

292 Miles and Huberman, *Qualitative Data Analysis.*
293 Miles and Huberman, *Qualitative Data Analysis,* 27.
interviews when they reached a saturation point and stopped exhibiting significant diversity.

Following recruitment, I conducted hour-long, semi-structured interviews with participants in order to understand user experiences, practices, and attitudes. These were text-only internet interviews that occurred in private chat rooms over Cyph, a peer-to-peer online messaging system.294 I followed IRB protocol in protecting the confidentiality and privacy of the interview data during each stage of the research process.295 As internet interviews, they featured a degree of "contextual naturalness"296, understood as a sense of conversational ease, arising from the familiar circumstance of a computer terminal, as opposed to a face-to-face interview. This allowed participants to "use language the way they do in most of their everyday interactions."297 However, as textual interviews, they lacked the material richness of face-to-face interviews, being without facial expression and body language, as well as "details of talk"298 — silences, verbal pauses, and self-corrections. These non-verbal communication practices, valuable to the interview researcher, were not available during my text-based, internet interviews.

In creating an interview template, I followed Herbert Rubin and Irene Rubin in thinking of interviews as "structured conversations"299 designed to cover research problems, which the interviewer develops beforehand, and to explore organic themes, which arise during the course of the interview. I also followed Rubin and Rubin in

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295 "Online Interviews with Craigslist and eBay Users," approved by the Institutional Review Board, University of Pennsylvania.
296 Kazmer and Xie, "Qualitative Interviewing in Internet Studies," 259.
297 Kazmer and Xie, "Qualitative Interviewing in Internet Studies," 259.
298 Roulson, "Issues Involved in Methodological Analyses of Research Interviews," 73.
299 Rubin and Rubin, Qualitative Interviewing, 129.
structuring the interview into main questions, follow-up questions, and probes. These question forms are designed to occasion "depth and detail, vivid and nuanced answers, rich with thematic detail."\(^{300}\) Here, interview participants are understood as "conversational partners,"\(^{301}\) both information sources and meaning makers, and the importance of follow-up questions and probes reflect this constructionist sensibility.\(^{302}\) First, I developed twelve main questions related to my research problems, such as fraud, customs, and labor. These were general questions about user activity. How long have you been using this platform? Are you more of a buyer or seller? What do you buy or sell on the platform? Have you ever been scammed? Some of these were questions about user opinions. Does selling on the platform feel like work? What do you think about platform policies? Do you ever feel unsafe during meet-ups? I also included a few droll questions that were relevant to my research questions but that also introduced some levity into the (relatively intensive) interview. What was the weirdest thing you have ever seen on the platform? Do you have a favorite memory associated with the site? Second, during the interviews, I asked follow-up questions in response to participant statements. These questions were formulated to occasion rich and nuanced explanations of user activity. Detail and description were central guiding principles, as I focused on specific events and objects. How did you come upon that rare antique? What happened the time you were defrauded? Why did you post that item for sale online in the first place? How did you feel about that? Third, as corollaries to the follow-up questions, I asked probes in order to elicit clarity and deepen user responses. What do you mean by that term? Could you give

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\(^{300}\) Rubin and Rubin, *Qualitative Interviewing*, 129.

\(^{301}\) Rubin and Rubin, *Qualitative Interviewing*, 79.

\(^{302}\) Warren, "Qualitative Interviewing."
me an example of that? In preparing and conducting the interview, I worked to be reflexive about my position as a researcher. I understand reflexivity as a process of self-questioning in which the researcher remains "conscious of their cultural, linguistic, political, and ideological origins and those they are studying". Aware of my background in the university, I used conversational language and steered clear of social science categories, asking low-stakes and open-ended questions in everyday terms.

In analyzing the interviews, I pattern-coded the data with themes that emerged progressively during review. The interviews were rendered in PDF documents, and I included pattern codes in mark-ups to the documents. Some of themes overlapped with patterns in other sources of evidence, and some of them were standalone themes unique to the interviews. On the one hand, I treated the interviews as autonomous texts with their own themes and patterns. I sought to identifying common experiences, practices, and attitudes, while respecting the particularity of each user's experience. On the other hand, I positioned the interviews alongside other sources of evidence. Consequently, during the pattern-coding of the interviews, I identified patterns internal to the interviews, as well as themes that cross-referenced with other sources of evidence.

304 Rubin and Rubin argue that being associated with the university "has plusses and minuses" — one is allowed to ask questions but also seen as judgmental. Rubin and Rubin, Qualitative Interviewing, 85.
306 Cumming-Potvin, "'New Basics' and Literacies: Deepening Reflexivity in Qualitative Research."
Following collection, I employed a critical, interpretive approach to the interview data. As in the interpretation of discussion board conversations, I drew on textual analysis in identifying patterns in user experience, user practice, and user attitude. These patterns were both explicit and implicit, sometimes at the same time — as when users recounted experiences (explicit) but did so in a way that belied deeper (implicit) assumptions about that experience. In analyzing the implicit dimension of interview statements, I continued to follow Stuart Hall in considering their ideological "deep-structure", or their covert conceptual underpinning.\textsuperscript{307} As in critical discourse analysis, I respected the veracity of actors while remaining attentive to their underlying social position and material interests.\textsuperscript{308} Still, I did not employ the semantic tools of critical discourse analysis, preferring the tools of humanistic interpretation to navigate the manifest and latent dimensions of interview statements.\textsuperscript{309} The specificity of interviews as a research source also informed my interpretation of the data — and distinguished it from my approach to the discussion board. Where discussion board conversations offered a breadth of data and allowed for the interpretation of user activity within a far-reaching, group context; interviews offered a depth of data and allowed for the interpretation of user activity within a well-rounded, individual context. Unlike the discussion board, interviews wove together the three dimensions of user activity — experience, practice, and attitude — as users painted inclusive portraits of their platform engagement. Comparatively, discussion board statements were fragmented: users related experiences, practices, and attitude that fit the conversational circumstances, often without context.

\textsuperscript{307} Hall et al., \textit{Policing the Crisis}.
\textsuperscript{308} Howarth, \textit{Discourse}.
\textsuperscript{309} Fürsich, "In Defense of Textual Analysis."
For example, where a discussion board participant might mention a strategy for selling antiques in response to a question about sales, an interview participant could explain that their selling strategies are derived from their experiences of purveying antiques and their opinions about digital antique culture. The holism of the interview made for rich interpretation, in which the explicit and the implicit were interwoven, and the three dimensions of user experience were linked in single cases.

In reporting the interview, I followed Jonathan Potter and Alexa Hepburn in making transparent the conditions of the interview, including the active role of the interviewer. This meant, for example, mentioning when a statement was a response to a specific question asked by me. I aimed to balance a commitment to transparency, on the one hand, with a sense of flow in the presentation of evidence. Unlike other studies involving research interviews, I did not reproduce the question and answer format of the exchange. This was because my interpretation did not occasion a semantic analysis and a concomitant breakdown of statements into constituent parts. There were other limitations to the interviews beyond linguistic approaches. I did not collect data on class, race, sexuality, ability, and other social factors that are part of internet markets insofar as they are part of social life. I relied on a large-scale Pew survey of internet merchants to set a baseline understanding of class and race on these platforms — which are overwhelmingly occupied by middle-class whites. Still, given the absence of relevant data in my research, I avoided arguments related to these topics, despite there being many to be made. Finally, as already mentioned, I did not conduct ethnographic field work, and

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310 Potter and Hepburn, "Eight Challenges for Interview Researchers."
311 Roulston, "Issues Involved in Methodological Analyses of Research Interviews."
312 Smith, "Gig Work, Onling Selling, and Home Sharing."
my interviews cannot be taken as comprehensive accounts of internet markets, but only as situated perspectives on experiences, practices, and opinions.

Recruitment Post

Hi everyone. Are there any regular [eBay/Craigslist] users interested in a paid and anonymous interview? I'm looking for regular [eBay/Craigslist] users willing to participate in a paid and anonymous interview about the platform — $40 via paypal for an hour-long online chat interview.

A bit about me: I'm a phd student at the university of pennsylvania studying digital economy. My dissertation is on internet markets, and [eBay/Craigslist] is one of my case studies. You can check out my credentials on the university of pennsylvania website: asc.upenn.edu/people/students/jonathan-pace

Safe travels and thanks for reading.

eBay Interview Questions

1. What is your current city, gender, and age range (20s, 30s, etc.)?

2. For how long have you been using eBay?
3. Are you more of a buyer or a seller?

4. What are some examples of things you have purchased on eBay?

5. What made you choose eBay over a conventional retail store?

6. Have you ever purchased goods from other internet markets, such as Craigslist?

7. Do you shop at antique stores or yard sales, as well?

8. Have you ever seen bizarre or unexpected objects for sale on the website?

9. What are some examples of things you have sold on eBay?

10. What prompts you to post something for sale on the website?

11. Do you have any selling strategies?

12. Are you generally pleased with the price at which things sell?

13. How much does selling through the website feel like work? Does it take up a lot of time?

14. Have you ever posted something for sale and received no bids on it?

15. Have you ever encounter problems with fraud or scams?

16. Are you active in the [forums/reddit]? What is your interest there?

17. Do you have a favorite memory or fun story associated with the website?

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*Craigslist Interview Questions*

1. What is your current city, gender, and age range (20s, 30s, etc.)?

2. How long have you been using Craigslist?

3. Are you more of a buyer or a seller?
4. What are some examples of things you have purchased on Craigslist?

5. Why did you choose Craigslist over a conventional retail store?

6. Where do you meet up with sellers to conduct transactions?

7. Have you ever felt unsafe during a meet up?

8. Have you ever seen bizarre or unexpected objects for sale on the website?

9. Have you ever purchased goods from other internet markets, such as eBay?

10. What are some examples of things you have sold on Craigslist?

11. What prompts you to post something for sale on the website?

12. Are you generally pleased with the price at which things sell?

13. How much does selling through the website feel like work? Does it take up a lot of time?

14. Where do you meet up with buyers to conduct transactions?

15. Have you ever posted something for sale and received no inquiries about it?

16. Have you ever encountered problems with fraud or scams?

17. Do you think Craigslist is doing enough to prevent fraud and scams?

18. Are you active in the [forums/reddit]? What is your interest there?

19. Do you have a favorite memory or fun story associated with the website?

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Coding Protocol

1. Mark user statements as relating to one of the keywords: fraud, cooperation, selling, objects.
2. Identify patterns within the marked statements to develop subcategories.

3. Mark the keyword-marked statements as relating to one of the subcategories.

4. Stop when the subcategorized posts no longer exhibit significant diversity.

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**Interview Dates and Participant Numbers**

<table>
<thead>
<tr>
<th>Round</th>
<th>Participants</th>
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<td>September 2017</td>
</tr>
<tr>
<td>Round 3</td>
<td>6 participants</td>
<td>October 2017</td>
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In analyzing governmental records, I looked at court cases; public reports from governmental agencies; Congressional hearings, codes of law, such as contract, fraud, postal, drug, and firearms law. I accessed these documents through PACER, an online service that provides access to court records and documents; the University of Pennsylvania law library; and governmental websites. My goal in looking at these records was to understand the legal and governmental systems within which internet markets operate. I began with a theoretical sample of institutional documents that directly involved my case studies: court cases to which they were party and public reports in which they were directly mentioned. This lead me to documents that indirectly involved my case studies: court decisions that set precedents for internet laws under which they operate; public reports about the internet crimes that occur on them; and Congressional hearings related to their infrastructure, such as payment and dark web infrastructure, and related to the regulation of contraband, which platforms circulate. Finally, I sought out codes of law to fill in the gaps of my knowledge: contract and fraud law to understand the legal dimensions of electronic commerce, and postal, drug, and firearms law to understand the circulation of contraband through internet markets.

In analyzing the data, I pattern coded the material according to themes that emerged during review. These pattern codes took the form of mark-ups on PDF documents. Some of these themes overlapped with those developed in other sources. On the one hand, I was interested in connecting institutional activity to user activity and
platform activity. This was helpful, for example, in understanding how the circulation of contraband (a user activity) could proceed without the intervention of content moderation (platform activity) or law enforcement (institutional activity). On the other hand, I sought out the novel components of the legal and governmental record, searching for evidence that was unique thereto. For example, courts of law may demand that platforms explain their secret or "black box" technologies in order to resolve legal disputes, and those explanatory instances are valuable for internet research. Similarly, Congressional hearings offered insight into the internal processes of governmental agencies, such as law enforcement agencies.

In interpreting the documents, I continued to employ a critical, interpretive approach, drawing on textual analysis to identify patterns in the systems surrounding internet markets. Here, however, I foregrounded the institutional context of their production. These are governmental documents, composed within state organizations that have routinized processes and clear interests. Those who are speakers in these documents — judges, federal officials, government workers — are embedded within this state organization and follow its rubrics. I aimed to respect the veracity of these actors while remaining attentive to their underlying institutional position. In addition to drawing on textual analysis, I drew on political-economic analysis in seeing states as actors with material and symbolic resources, as well as strong incentives to protect and maintain those resources.

313 Howarth, *Discourse*. 
Documents List

Court Cases

- *Chicago Lawyers Committee for Civil Rights Under Law v. craigslist. Inc.* 519 F.3d 666 (7th Cir. 2008).
Governmental Reports


Congressional Hearings and Legislation


Coding Protocol

1. Establish that document is relevant to one or more of the research topics.

2. Mark document as relating to one or more of the keywords: fraud, cooperation, sale, objects.
3. Identify patterns within the marked statements to develop subcategories.

4. Mark the keyword-marked statements as relating to one of the subcategories.
Platform documents included user agreements, terms of use, user guidelines, market policies, and promotional materials. In the case of Silk Road, I also used internal platform records that detailed major site-related activity; these records were retrieved by the Federal Bureau of Investigation during their investigation into Silk Road, and they were presented as evidence by the prosecution in the criminal trial of Silk Road's architect. I took a theoretical sample of platform documents related to user activity. Each of these documents was designed to control user activity (guidelines and policies) or to protect markets from problematic user activity (user agreements and terms of use). I pattern-coded this data with themes that emerged progressively through review, and some of these overlapped with themes that developed from other research sources. For instance, a user agreement bans a practice that, as relayed in discussion board conversations and interviews, nevertheless occurs on the platform; and the phrasing of the user agreement reflects the state of internet law, as relayed in the legal records. Note how triangulation unfolds in this case — not with the goal of comprehensive generalizability but with the goal of credible trend identification. In interpreting these documents, I drew on textual analysis to identify patterns in platform activity. More notably, I drew on political-economic analysis to consider how the material interests of platforms inform their user documentation. This includes, for instance, how user agreements enable platform companies to control economic resources or evade legal liabilities.
Document List

- Craigslist
  - "About"
  - "Avoiding Scams"
  - "Flags and Community Moderation"
  - "Jim Buckmaster"
  - "Prohibited"
  - "Terms of Use"

- eBay
  - "Money Back Guarantee"
  - "Prohibited and Restricted Items"
  - "User Agreement"

- Silk Road
  - "Weekly Reports"
  - "Expense Reports"
  - "Net Worth Calculator"
  - "Breakdown of Sales Data"
Appendix V

Supplemental Media

ABC News
AIM Group
Alexa Statistics
The Atlantic
Ars Technica
Bright Planet
Business Insider
CBS News
CNN
CNet
Columbia Business Times
Crunchbase
The Economist
Fast Company
Finance India
Forbes
Gawker
Gizmodo
GQ
The Gothamist
The Guardian

The Hill

Marin Independent Journal

Mashable

The Morning Call

The New York Times

The New Yorker

NBC Los Angeles

NBC Washington

Philly.com

Quartz

SF Gate

Slate

Tech Crunch

Vanity Fair

Variety

VICE

The Washington Post

Wired
Appendix IV
Primer on the Case Studies

*Craigslist*

The history of Craigslist begins in 1995, when Craig Newmark, a computer programmer turned consultant, started a e-mailing friends and coworkers about events in San Francisco related to art and technology.\(^{314}\) The e-mail chain eventually snowballed to a formal listserv that included two hundred people, who introduced apartment searches and job hunts into the discussion. When the listserv grew too large, Newmark created a website with a dot-org top-level domain; he named the platform Craigslist, because, as he recalls, users told him, "Hey, we already call it Craigslist. Let's keep it personal and quirky and just call it Craigslist."\(^{315}\) By 1999, when Newmark hired Jim Buckmaster to oversee the site's technical operations, Craigslist was being visited over a million times per month, making it one of the most popular platforms on the (relatively) budding internet.\(^{316}\) Over the next few years, Buckmaster expanded the platform to include locales beyond San Francisco and beyond the United States. He also instituted a community moderation system, which allowed users to flag posts that seemed off-topic or illegitimate; this removed the onus of content review from the company's shoulders and permitted Buckmaster to focus on back-end maintenance rather than front-end upkeep.

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\(^{314}\) Susan Freese, *Craigslist: The Company and Its Founder* (North Mankato: ABDO, 2011). I draw on Freese through the rest of this paragraph.


\(^{316}\) Freese, *Craigslist: The Company and Its Founder*. 
With these developments, Buckmaster became company president and CEO, while Newmark remained as chairperson of the board of directors. Craigslist rode the wave of Web 2.0 through the early 2000s, and, by the end of the decade, one in five adults reported using Craigslist every month. Since then, Craigslist has solidified its technical structure and dropped from the eighth to the fifteenth most popular website in the country — hardly a Roman fall, given the general increase in traffic and platforms on the internet since then.\textsuperscript{317} True to the "quirky and personal" spirit of the platform, Newmark and Buckmaster continue to eschew targeted advertising and information brokerage. Craigslist generates revenue by charging fees for job postings in certain locations and for brokered apartment listings in New York City.\textsuperscript{318}

Outside of commerce, Craigslist has a laid-back platform culture and a popular reputation as a no-frills market that is utilitarian and effective but also "quirky and personal". Several cultural objects attest to this reputation. In 2005, a Montreal man, Kyle McDonald, began to barter objects on Craigslist with the purpose of obtaining increasingly valuable goods.\textsuperscript{319} Documenting the journey on a personal website, he began by trading a red paperclip for a pen, and, less than a year later, he was trading a role in movie for a two-story farmhouse in Saskatchewan.\textsuperscript{320} "Weird Al" Yankovich wrote a parody song about the website, in the style of 1960s blue rock.\textsuperscript{321} There, he hums on

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about the idiosyncrasies of platform commerce and user posts: a missed connection from "Saturday at the mall"; the trade of a Chevy Malibu for and "old wheelbarrow and a slightly used sombrero"; "an open letter to the snotty barista at the Coffee Bean on San Vincente"; and a "trash can of Styrofoam peanuts" offered for free — but only the peanuts, "the trash ain't part of the deal". 2009 saw the premiere of *Craigslist Joe*, a documentary about a man living off of food, shelter, and transportation gleaned through Craigslist interactions. The film concludes with the sentiment that people are "overwhelmingly trustworthy and generous*. *Craigslist Joe* echoed the humanistic tone of *24 Hours on Craigslist*, a documentary capturing the stories of people who posted in the San Francisco section Craigslist over the course of a single day. These character vignettes include an Ethel Merman impersonator, a member of a support group for diabetic cats, and a ballroom dance instructor. In the words of *Variety* film critic Dennis Harvey, the documentary is a "colorful human mosaic", less about the internet than about "the stubborn nonconformity for which it provides an outlet*. These eclectic objects in popular culture evince the Craigslist's reputation as simultaneously utilitarian (McDonald finds a house, Weird Al exchanges goods, Joe locates provisions, and diabetic cat owners find support) and eccentric (a paper clip turned piece of property, a missed connection, an open letter, a free trash can of peanuts, and a cast of colorful characters).

323 *Craigslist Joe*, directed by Joseph Garner (CLJ Films, 2012), DVD.
324 *Craigslist Joe*, directed by Joseph Garner.
325 *24 Hours on Craigslist*, directed by Michael Ferris Gibson (Zealot Pictures, 2005), DVD.
From a technical perspective, the Craigslist interface is scandalously unassuming. The interface features blue text in an Arial font, set against light gray banners and a white background — an iconic layout that the platform has barely altered since the 2000s. A home page outlines the site sections and subsections, listing platform documents beneath a live calendar. One of the sections is a discussion section, home of the discussion boards that constitute a major research source in this project. The discussion boards are organized in topic, ranging from art and literature to money and taxes, and they are structured in conversational threads, publishing comments in chronological order in response to a foundational post. For instance, an owner of a diabetic cat might begin a new thread in the Pet section by posting a question about animal medication; users would then reply to the post, and their comments would be listed in chronological order beneath the original post. Unlike the Craigslist market, discussion boards are not locally bounded, and users from all over the world may post on the same board. They are analogous in structure to Usenet or Reddit forums.

Craigslist users post classified advertisements in specific categories, and interested users reply directly to the poster through email or phone number. Classified advertisements may be viewed as a list of thumbnails, as a gallery of photos, or (if relevant) as a map of locations. Outside of job and housing postings, users pay no fee to publish advertisements, which expire after several weeks. Despite the simplicity of the posting from the perspective of users, Craigslist features several protocols and

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328 Fankhauser, "Why the Web Hasn't Birthed a Prettier Craigslist."
functionalities that serve the technical foundations of local commerce. Craigslist utilizes an filtering protocol that prevents the posting of multiple identical advertisements and the repeated loading of the site (in technical terms, repeated client requests). Site advertisements are published with a flag functionality, through which users can report posts that appear suspicious. Advertisements are removed when they accrue a certain number of flags, although that number is not publicly known. Craigslist refers to the process of user flagging as "community moderation". Craigslist also includes a profile functionality, and users can only post on the platform after creating a profile — a simple process that consists of verifying an email, agreeing to terms of use, and setting a password. Craigslist provides a temporary email account or "mail relay" through which users can communicate and which services as a relatively anonymous contact method. In creating a post, users select a category, provide basic information in a text box, indicate a preferred contact method, and answer a captcha. Neither names nor identifying documents are necessary to create accounts of post advertisements, making Craigslist users anonymous by default. Finally, Craigslist features a set of platform documents related to best practices: a manual for avoiding fraud, a list of banned objects, and personal safety tips.

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*eBay*

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In 1996, Iranian-American computer programmer Pierre Omidyar founded AuctionWeb to exchange some of his collectibles, which he had started to amass as a side hobby. When the site began to attract high levels of internet traffic, especially from antique dealers accustomed to auction exchange, Omidyar upgraded to his internet service to a business account in order to accommodate the surge in online activity. By 1997, the platform was hosting two million auctions each month, hiring executives and board members to fill its ranks, accepting seven million dollars in funding from a venture capital firm, and rebranding itself as eBay — an adaptation of Echo Bay, Omidyar's first choice for the site name, tabled due to an unavailable domain address. When eBay went public in September 1998, the company was the over-achieving child of the dot-com boom — an early tech unicorn that with a userbase of a million and a market valuation of $1.88 billion. Through the 2000s, eBay expanded beyond collectibles and travel products to include clothing, electronics, sporting goods, and other consumer durables, as well as cars, for which the company briefly created (and then shuddered) a separate market in automobiles. During this period, eBay also took commercial

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331 Adam Cohen, *The Perfect Store*.
advantage of Web 2.0 developments through the acquisition of online auction markets, such as Up2Sale.com, Half.com, Mercadolibre.com, Lokau.com, Carad.com, Baazzee.com, Marketplaats.nl, Rent.com, Loquo.com, and Shopping.com; conventional auction houses, including Butterfield & Butterfield and Alando; and communication and payment technologies, such as Skype and PayPal — two of the company's most profitable investments.\(^ {335}\) eBay also took a 28% stake in Craigslist, buying out a shareholder and former employee in 2004.\(^ {336}\) However, the relationship soured by 2008, when eBay sued Craigslist for diluting its stake in the company to 24%, a move that cost eBay a board seat and prompted Craigslist to buy back the minority stake.\(^ {337}\) In the 2010s, eBay introduced retail sales to the website, furnishing company-made clothing and home goods to compete with internet retail giants, such as Amazon.\(^ {338}\) This distinguishes eBay from Craigslist and Silk Road, which rely exclusively on the peer-to-peer commerce of users.

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335 E-Commerce Journal Staff, "Ebay's History." Crunchbase Staff, "eBay Acquisitions."  

336 E-Commerce Journal Staff, "Ebay's History." Crunchbase Staff, "eBay Acquisitions."  


eBay culture reflects the history of the platform and the transactional form of the auction. In consumer culture, eBay is considered a place to find rare or unexpected items. In 1999, someone tried to auction off a kidney on the platform.339 A 2001 episode of the television series *Will & Grace* featured a fierce bidding war between characters over a pair of Britney Spears' sneakers. In 2015, to commemorate the platform's twenty-year anniversary, *Time* magazine published a list of "The 20 Weirdest Things Ever Sold on eBay."340 An Instagram account with forty-five thousand followers "finds the weirdest shit on eBay so you don't have to,"341 posting screenshots of disfigured dolls, Versace jump ropes, and other detritus from the open auction market. Here, eBay is a source of consumer goods that are rare or eclectic, not necessarily valuable but not necessarily worthless. Further, as the *Will & Grace* example illustrates, eBay culture is also an auction culture that features the competitive economic practices proper to sale by bid. These practices include: bidding wars, in which buyers aim to out-bid each other on objects before the auction timer runs out; sniping, in which buyers wait until the very last minute to post a high offer that will secure them the item; and shill bidding, in which sellers bid on their own products in order to drive up the bidding prices among customers.342 Auction culture blends into antique culture, another crucial dimension of


eBay, as both view the exchange of goods as a competitive practice, or, at least, high-stakes practice that can turn into a lucrative investment or a missed opportunity. As an antique venue, eBay is part of a vast economic landscape in collectibles — retail venues, auction houses, yard sales, and flea markets. The foundational role of antique dealers in the early days of the online auction market means that eBay culture is also antique culture: the platform generally follows the representational conventions of collectibles exchange, even when other objects are offered for sale.

On a technical level, eBay has a unique interface and runs on a series of protocols and functionalities. The current platform interface features a standardized scheme of bright colors, bold black text in Arial font, and multiple banners that direct users to different parts of the site. As on Craigslist, there is a discussion board that is not moderated by the platform, allowing users to freely discuss their concerns without penalty or censorship. Auction page are uniformly formatted, with a product photo on the left, real-time auction information on the right, and product description below. Still, auction pages enjoy a high level of customization: there are few limits on the length and the format of product descriptions, and some vendors create their own formatting templates to standardize their offerings.

eBay also features several protocols that are important to market operations. There is a filter protocol that removes advertisements for banned items. Once an advertisement passes through the filter, it moves through the auction protocol, where vendors are prompted to set for the auction a timeframe (ranging from days to weeks), a reserve price (minimal acceptable bid), and a Buy it Now price (price that secures the item and thus ends the auction). In the case of a successful bid, the buyer pays the vendor
through a payment protocol, Paypal, which places electronically transferred money in a temporary escrow before delivering it to the receiver. This protocol, through which every transaction must pass, allows the platform to collect a commission on each transaction, ranging from ten to twenty percent of the selling price. Further, eBay features a reputation protocol, which allows buyers to rate sellers after a purchase. There, buyers are to evaluate the accuracy of product description and the quality of customer service offered by sellers. eBay also maintains a dispute resolution center to resolve contested transactions, including claims of fraud. Outside of protocols, eBay includes a copyright functionality, which allows companies to request item removal if the item is a suspected counterfeit. Profile creation is a simple process that consists of email verification and password creation. Seller fees and credit card numbers accompany vendor profiles, which have access to the post functionality but may be financially penalized in cases of contested dispute.

Silk Road

Silk Road was a market on the dark web. The dark web is an amorphous collection of internet sites that run on darknets, or overlay networks that employ non-standard communication protocols in order to encrypt and anonymize information.\textsuperscript{343} The

\textsuperscript{343} Typically, a domain name is translated into a corresponding IP address through the Domain Name System (DNS). Once the address has been located, Transmission Control Protocol (TCP) enables a connection between two hosts, who are then able to exchange information. TCP/IP refers to this suite of standard communication protocol. Instead of having a standard top-level domain (such as .com) and a corresponding IP address that can be translated by DNS, dark web sites employ a non-standard top-level domain (.onion) that can only be accessed through private overlay networks, such as The Onion Router (Tor) and Invisible Internet Project (I2P). Moreover, rather than connect through the conventional Internet port, dark web sites use alternative ports, of which there are
term "darknet" was initially coined in the 1970s to designate networks insulated from ARPANET. Only in the early 2000s did the term gain relative purchase, following a conference publication by Microsoft employees on digital piracy and topical articles in Wired. The phrase "dark web" likely developed contemporaneously within hacker circles as an idiomatic reference to darknet-accessible websites. Despite some terminological confusion in the popular press, the dark web is not equivalent to the deep web, or the assortment of websites, mostly databases, that have not been indexed by traditional search engines. The dark web does not include file-sharing websites, such as Kazaa, as these utilize standard internet protocols, nor does it include military networks, such as the Secret Internet Protocol Router Network, as these are structurally detached from the public internet. Dark web sites are published and maintained primarily through Tor Hidden Services, which conceal user identities and hide server locations.


348 When computers connect to the internet, they each are assigned a unique IP address. A computer's IP address corresponds to its internet service provider, IP host name, and geospatial location. IP addresses consequently permit the tracking of internet-connected computers. In order to prevent tracking, private overlay networks (such as Tor) relay users through a series of servers before connection, so their IP addresses correspond to a
They predominately function as underground marketplaces for the exchange of illegal or highly regulated goods: fake identification and passports, stolen credit cards and identities, hacker services and manuals, pirated media and electronic goods, human slaves and escorts, guns and ammunition, and street and pharmaceutical drugs. The dark web also hosts social networking sites for criminal and radical groups, including terrorist organizations and hacker collectives.

In January of 2011, Ross William Ulbricht, an American man in his thirties, developed and launched Silk Road as a business venture and an experiment in free markets. After obtaining a hidden server to host Silk Road — named after the sprawling trade networks of antiquity — Ulbricht advertised the site on drug and cryptocurrency forums on the clear web, such as Shroomery.org and Bitcointalk.org. Living in Colorado at the time, he grew psychedelic mushrooms in his backyard in order to post them in the market and therefore attest to the legitimacy of the site in the absence of a node in another part of the world. This is made possible through a network of six thousand volunteer computers, which function as intermediary nodes. In the case of Tor, these computers range from private desktops to institutional networks, including governmental and university networks, as Tor was originally established to protect political whistleblowers and victims of domestic abuse. Further, the relay system allows users to publish sites without revealing the site's server location. Hence, in addition to being navigationally inaccessible through the TCP/IP protocol, dark web sites are grounded in servers that are difficult to physically locate. Digital Citizens Alliance, "Busted, But Not Broken: The State of Silk Road and the Darknet Marketplaces," published online 2014, http://digitalcitizensalliance.org.

349 Steve Mansfield-Devine, "Going Over to the Dark Side."
of a user base. By October of 2011, Silk Road was facilitating a million dollars worth of trade each month; Ulbricht was collecting a hundred thousand dollars in commission as his monthly paycheck; and law enforcement agencies were investigating the platform after a seller agreed to turn state witness. Four months later, in February 2012, Ulbricht hired programmers to help maintain the site, which was now moving two million dollars worth of contraband each month. Stakes rose in the summer, as Silk Road hit one hundred million in sales and federal agents went undercover to infiltrate the anonymous site. Ulbricht was unknowingly corresponding with an undercover FBI agents when he reported the "explosive growth" of Silk Road to the discussion board in November 2012, and when he hired an assassin to murder a user who was extorting him in January 2013. Later that year, the Reykjavik Metropolitan Police (RMP) in Iceland, where Silk Road's hidden server was located, identified the platforms dark web address, leading the FBI to search and shut down the domestic servers in Pennsylvania hosting Silk Road data. In order to capture Ulbricht, however, the FBI needed to directly connect the executive to the platform, a difficult task in the anonymous conditions of the dark web. Consequently, in October 2013, federal agencies staked out the San Francisco Public Library, where Ulbricht often worked, until the executive arrived, opened his laptop, and logged into the Silk Road central administration page.

From a technical perspective, Silk Road featured a conventional interface and operated through a set of protocols and functionalities. Visually, the interface resembled the bare-boned Craigslist system, inflected through hacker aesthetics: product categories presented in their entirety, advertisements arrayed as thumbnails in lines of three, set against a white background with dark green Arial text, and the Silk Road logo on the upper left. It also drew on the internet retail conventions with a shopping cart functionality, displayed on the top of the interface.

An escrow protocol was key to the site's operation. Traders dealt in Bitcoin, a digital currency that supports verifiable and anonymous transactions without a centralized third party.\textsuperscript{360} When purchasing a good on Silk Road, buyers were to place their payments in a site-supported escrow. Upon receiving the item, the buyer was to inspect the product and finalize the purchase. Finalization released the funds from escrow to the vendor. The escrow system was designed to prevent the sale of counterfeit products and to generate revenue for the site executive. Ulbricht took a commission, ranging from ten to twenty percent of the selling price, on every trade that passed through Silk Road's escrow system.\textsuperscript{361} Silk Road also featured a reputation protocol in the form of a five-star rating system, which allowed buyers to evaluate vendors. The vendor reputation system was also designed to encourage competition among sellers, who could strategically brand themselves claim a small market segment.

\textsuperscript{360} Bartlett, \textit{The Dark Net}.
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