Selling, Sharing, and Everything In Between: The Hybrid Economies of Collaborative Networks

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Recent consumer research has examined contexts where market-based exchange, gift-giving, sharing, and other modes of exchange occur simultaneously and obey several intersecting logics, but consumer research has not conceptualized these so-called hybrid economic forms nor explained how these hybrids are shaped and sustained. Using ethnographic and netnographic data from the collaborative network of geocaching, this study explains the emergence of hybrid economies. Performativity theory is mobilized to demonstrate that the hybrid status of these economies is constantly under threat of destabilization by the struggle between competing performativities of market and nonmarket modes of exchange. Despite latent tension between competing performativities, the hybrid economy is sustained through consumer–producer engagements in collaborative consumption and production, the creation of zones of indeterminacy, and the enactment of tournaments of value that dissipate controversies around hybrid transactions. Implications are drawn for consumer research on the interplay between market and nonmarket economies.

Keywords: hybrid economy, performativity, exchange, sharing, gift giving

"*I very happily paid whatever Clyde asked the last time, and this time, too. GSAK is such a great caching tool! Thanks to everyone who helps support it!*"

"*I also gladly paid the upgrade fee, and I consider it only fair that all of us users of this magnificent software help Clyde in continuing*

his great job! So, if you consider using [Version 7], then you definitely should pay the fee. To me, it's not only a matter of supporting Clyde, but also a courtesy, as he is very supportive and responsive to all of our requests and problems. Clyde, I hope . . . that you let us benefit in the future from GSAK, if you deem it necessary, also with additional fees."

"*You've got a great piece of software on your hands and you should try to get back some of the hard work you've put into it. I myself will be registering GSAK twice as I feel that the $30 is worth every darn penny! Thanks again Clyde for such an AWESOME program and for all of the great support you provide for it!*"

The opening quotes are part of a discussion unfolding on the support forum for users of the software Geocaching Swiss Army Knife (GSAK). The software enhances the experience of geocaching, a hobby that relies on the collaborative management of location data. As the quotes indicate, geocaching players highly value the software and would be willing to pay more than the asked price for it. Yet the geocaching player who created the software, Clyde, declines the opportunity to maximize profit

from his creation. GSAK has had only one price increase in about five years, despite the fact that the software had been updated more than 20 times within that same period. This mystifying pricing strategy suggests that the purchase of GSAK is not a prototypical market transaction. Users direct profuse thank-yous to Clyde and to other GSAK users and voluntarily make double payments for the software, infusing the transaction with reciprocity and mutuality and making it more akin to gift-giving than market-based exchange. However, this is not a typical case of gift-giving either because everyone, including users who helped develop GSAK (e.g., volunteer beta-testers) and had been using it for free since its inception, must now acquire its most recent version in exchange for about US\$30. Hence, this particular transaction seems to be a hybrid combining aspects of gift-giving and market-based exchange.

Market-based exchange and gift-giving are examples of prototypical modes of exchange—that is, each conceptualizes a type of transaction by which economic resources (e.g., goods, services, and experiences) are exchanged between two parties or transferred from one to another. Modes of exchange require specific supporting elements and each mode is guided by certain logics—that is, different fundamental (and recognizable) principles guide different types of transaction. Market-based exchange, for example, is widely conceived as following the logics of profit maximization and of independence between actors who have self-interested motivations (Hyde 1979/2007). It requires money (or an equivalent mechanism) and substitutable parties (Gregory 1982). Gift-giving, on the other hand, has been noted to require wrappings and ceremony (at least in its prototypical form [Belk 2010]), and to follow the logics of mutuality and reciprocity (Mauss 1950/1990), establishing "a feeling-bond between two people, while the sale of a commodity leaves no necessary connection" (Hyde 1979/2007, 58). Other modes of exchange have been conceptualized as requiring different elements and following different logics (Weinberger and Wallendorf 2012 for other types of gift exchange; Belk 2010 for sharing; Humphrey and Hugh-Jones 1992 for barter).

As in the case of GSAK and geocaching, some modes of resource exchange exist that do not exactly fit the prototypes discussed above. Hybrids that cut across prototypical logics and modes of exchange emerge in various contexts where consumers collaborate with entrepreneurs, marketers, and among themselves to create value. Brand, fan, and consumption communities (Thomas, Schau, and Price 2013), as well as other Internet-based networks of collaboration such as Couchsurfing (http://www.couchsurfing.com), Etsy (http://www.etsy.com), and Geocaching (http://www.geocaching.com) are examples of such collaborative consumer–producer networks. These networks are characterized by complex interactions between social and commercial interests (Jenkins, Ford, and Green 2013) and by

the aggregate efforts of interdependent participants who switch between the roles of consumer and producer as they engage in social and economic activities directed toward value creation.

The frequent employment of combined logics and modes of exchange such as those noted in the opening quotes attributes a particular hybrid character to the economies of such collaborative consumer–producer networks. Whereas market economies have been largely characterized by the prevalence of market-based exchange, and nonmarket economies (e.g., gift economies, sharing economies) have been defined as those in which particular nonmarket forms of exchange prevail (Gell 1992), hybrid economies can be characterized by the coexistence of multiple modes of exchange, guided by logics that only squarely fit those commonly associated with prototypical market-based exchange, sharing, gift-giving, or other familiar modes of exchange (Jenkins et al. 2013; Lessig 2008). Hence, hybrid economies operate at the interstices between market and nonmarket economies (e.g., gift, sharing, and moral), and we do not fully understand how exchange is configured in them.

Understanding how resources are exchanged has been a pertinent concern among consumer researchers. It is through exchange that consumers acquire or access products and services (Bardhi and Eckhardt 2012; Belk 2010), dispose of products (Arsel and Dobscha 2011; Belk, Sherry, and Wallendorf 1988; Lastovicka and Fernandez 2005), foster relationships (Albisson and Perera 2012; Sherry 1983), and achieve other social and economic goals (Belk and Coon 1993; Ozanne and Ozanne 2011). To arrive at these outcomes, consumers frequently engage with multiple modes of exchange guided by different logics, frequently combining the differential logics and modes of exchange in hybrid forms.

While hybrid economies have become increasingly prevalent in contemporary collaborative networks (Benkler 2006; Lessig 2008), the embeddedness of the market in the social has been observed in "traditional," precapitalist economies (Parry and Bloch 1989), as well as in local trading systems within capitalism (Zelizer 2005). The notion that every economy is composed, to a certain degree, of a hybrid of social and market logics (Carrier 1995; Gregory 1982) follows from the assumption that market and society are counterforces that are impossible to disentangle (Polanyi 1944) and suggests that attempts at examining these domains separately fail to appreciate their complex interrelationships.

Consumer scholars have made efforts to examine the relationship between different economies in diverse contexts (Giesler 2006; Joy 2001; Kozinets 2002; Marcoux 2009; Miller 2002; Price and Arnould 1999) and to explain the various interfaces among logics and modes of exchange typically employed in market and nonmarket economies (Epp and Price 2010; Kozinets 2001; Schouten and McAlexander 1995; Weinberger and Wallendorf 2012). Yet, the hybrid forms that may emerge when consumers

attempt to reconcile different logics and modes of exchange have not been theorized. Moreover, whereas previous research has examined consumers' ideological and actual preferences regarding different economies, it has not considered how consumers may actively contribute to the shaping of hybrid economies.

Toward addressing those gaps, this study seeks answers to the following questions: (1) How do hybrid economies emerge in collaborative consumer–producer networks? (2) What is the role of consumers in shaping and sustaining hybrid economies?

To answer these questions, this study builds upon qualitative data on the collaborative consumer–producer network of geocaching. Data are interpreted through the prism of performativity theory, which has been applied in examining how marketing practices, as well as the various actors performing them, shape markets (Araujo 2007; Araujo, Kjellberg, and Spencer 2008; Martin and Schouten 2014; Zwick and Cayla 2011). Here, that performative character is extended to exchange to consider how the multiple transfers and exchanges consumers engage in over time shape and sustain the hybrid economy of a collaborative network.

Drawing on performativity theory to examine hybrid economies is valuable because it allows for treatment of a collaborative consumer–producer network's economy as an open situation, without assuming that it will inevitably become stable and more similar to a market or nonmarket economy. By focusing on the constant tension that characterizes simultaneous enactments of multiple modes of exchange, this study reveals key ways in which consumers help to shape a hybrid economy and work to sustain it. Moreover, by examining the multiple ways in which resources are exchanged in a hybrid economy, this study brings to light a more nuanced relation between economies than the existing literature has portrayed. When linked to prior consumer research, this study extends understanding of the shaping of economies by way of consumer activities of production, consumption, and distribution of resources.

The remainder of this article presents a review of consumer research on the interplay of market and nonmarket economies and of multidisciplinary research on hybrid economies, introduces performativity theory, and explains the methodology and context of this study, as well as its findings. In the final section, the findings are considered in relation to the existing literature, and their implications for consumer research on exchange in collaborative consumer–producer networks are discussed.

CONSUMER RESEARCH ON THE INTERPLAY OF ECONOMIES

This section reviews consumer research on the interplay between market and nonmarket economies, highlighting contexts where consumers are likely to engage with multiple logics and modes of exchange simultaneously. Whereas some of this research portrays the dynamics between different economies as one of competition (Giesler 2006; Marcoux 2009) and considers market and nonmarket economies incommensurable, this section focuses on studies that explore attempts at combining distinct logics and modes of exchange within an economy.

One such context is studied by Kozinets (2002) in his analysis of the Burning Man festival. Participants at the Burning Man festival point out the market logics and oppose them through a hypercommunal event where most offerings are gifted or shared. In their discourses, rules, and social relations, Burning Man participants position the festival radically against the market and disparage its logics of "efficiency and rationality" (Kozinets 2002, 20), as well as the exploitation of consumers by "powerful corporations and their constricting advertising logics" (Kozinets 2002, 26). However, Burning Man participants engage in commercial exchange (purchasing, for instance, entrance tickets to the event) and make efforts to integrate such exchanges into the communal ethos of the festival by reinterpreting them as authentic, personal, engaging, and creative. In addition, Burning Man participants are invited to engage in bartering, sharing, and gift-giving and to develop other personal alternative forms of exchange as a way of reinforcing the nonmarket logics of mutuality, interdependence, and care favored at the festival. These findings suggest that, when the relationship between market and nonmarket logics and modes of exchange is troublesome to them, consumers may work to construct a space where the least desirable aspects of one or another can be reinterpreted so different logics and modes of exchange may interact favorably. A similar form of consumer engagement with multiple logics and modes of exchange was found by Weinberger and Wallendorf (2012) among community members involved in the organization of the Mardi Gras parade following Hurricane Katrina in New Orleans. The authors highlight that these members "intertwine economic (market) and sociocultural (moral) logics for holding the event" (Weinberger and Wallendorf 2012, 88) and that, despite their evident discomfort in having nonlocal companies sponsoring Mardi Gras, members make attempts at connecting these companies with the community, thereby reinterpreting the logics behind sponsorship gifts.

Kozinets (2002) notes, that the relation between consumers' social goals and the logics of the market is not always problematic, as in Schouten and McAlexander's (1995) description of the relationship between marketers and subcultural communities as symbiotic, implying mutual benefits. The heterogeneous community dedicated to athletic running investigated by Thomas et al. (2013) can be considered a site of mutualistic relations between market and nonmarket logics and modes of exchange. Thomas and colleagues describe the heterogeneous community of running as one where consumers and producers mutually

benefit from the flow of economic and social resources between them: "Consumers rely on producer resources to enact their identities and producers rely on consumers to purchase products" (Thomas et al. 2013, 1023–24). An examination of the modes of exchange through which economic resources flow among producers and consumers was outside the scope of Thomas and colleagues' work; nevertheless, their findings describe multiple occasions where consumers employ logics typical of gift-giving, sharing, and market-based exchange to assess the appropriateness of producers' actions in the community. Due to the heterogeneity and resource dependency between producers and consumers in the running community, it may be that a combination of modes of exchange will be employed in this context to allow heterogeneous participants to align their social and economic goals and derive mutual benefits from interacting with each other.

Another context where such symbiotic relation can be observed is the market developed by the Minimoto enthusiasts studied by Martin and Schouten (2014), who found that Minimoto consumers follow logics of market and moral economies: "Even the embedded entrepreneurs who may eventually sell their business equity to commercial concerns are bound by community norms to subordinate profit-seeking to the needs of the community up until that point" (Martin and Schouten 2014, 867–68). This evident subordination of market interests to community needs indicates that participants may combine various logics and modes of exchange to distribute economic resources in the Minimoto network.

Even though these recent studies acknowledge the impact on a market of consumers' production activities, they do not examine how those activities might influence the ways in which resources are exchanged in that market. Moreover, studies in this strand have noted hybrid elements in the economy of consumer collectives but have done so at a macro level of analysis, focusing on the entire collectives and their relation to the market, not on individual enactments of exchange. The problem with that approach is that it does not uncover the various elements of collaboration and contest that are involved in sustaining a mutually beneficial dynamic between market and nonmarket logics and modes of exchange. Hence, more studies have been called for that "investigate instances of contested market interactions empirically, at a more granular level" (Finch and Geiger 2010, 136). Such a micro-level approach focused on individual acts of exchange could be better suited to exhibit the struggle between competing enactments of multiple modes of exchange and the forces that work to sustain the fleeting and fragile status of hybrid economies.

In order to advance understanding of such contexts, the next section briefly overviews the multidisciplinary literature on hybrid economies, which are characterized by the coexistence of multiple logics and modes of exchange in a mutually beneficial dynamic, and where new logics and modes for the distribution of resources emerge that resemble but are nevertheless distinguishable from the ones commonly associated with either market or nonmarket economies.

HYBRID ECONOMIES AND HYBRID MODES OF EXCHANGE

The notion that social and market-based economies are entangled follows Polanyi's (1944) argument that markets can only function effectively when they are embedded in societies, which have the capacity to reconcile the constant conflict between simultaneous demands for efficiency and change on one hand and for stability and social harmony on the other. Polanyi's (1944) idea that the market coexists with reciprocity, redistribution, and household economies has been mostly advanced in sociology and economic anthropology (Lévi-Strauss 1987; Sahlins 1972). Zelizer's (2005, 3) work on "circuits of commerce," for instance, aims to debunk the separation of intimacy and money and their portrayal as "hostile worlds" by describing numerous instances where the economic and social are bridged in transactions between romantic partners, friends, and family members.

Other scholars have noted that the distinctions between market and nonmarket economies and between commodities and gifts should be reconsidered (Appadurai 1986; Carrier 1995; Parry 1986). For instance, Parry and Bloch (1989) examine certain modes of exchange that do not fit the prototypes of pure modes of exchange such as prototypical gift-giving and market exchange (Mauss 1950/1990). Whereas pure modes of exchange are conceptual devices commonly associated with one economy (or regime of value [Appadurai 1986; Arnould 2013]) and differentiated from the modes characteristically employed in other economies (Belk 1979, 2010; Cheal 1988), not all transactions can be as easily categorized (Miller 2002).

Gell, for instance, noted that the ceremonial exchange he observed in Melanesian societies "is a hybrid product arising out of the ambiguous confrontation of two other transactional modes" (Gell 1992, 142)—namely sharing and commodity exchange. He also noted that the power of these exchanges to shape Melanesian societies was directly derived from the ambiguity of being between known types of exchange without amounting to either. Similarly, other researchers have found hybrids in "ambiguous objects" gifted among friends and family members (Ertimur and Sandicki 2014, 204) and in gifts that are exchanged according to the economic model (Belk and Coon 1993) or "alienated as radically as possible" (Parry and Bloch 1989, 8). Other instances of hybrids are "mass-gifts" (Bird-David and Darr 2009, 305) and garage-sale transactions, which "can fluctuate between gift and commodity, or partake of

both at the same time, depending on the social relations of specific transactions" (Herrmann 1997, 910).

In contemporary collaborative consumer–producer networks, a variety of such hybrid modes of exchange has been noted (see table 2), including freemium, donation-ware, and the Creative Commons (Jenkins et al. 2013), among others (Corciolani and Dalli 2014). Freemium consists in the offering of the essential parts of a product or service for free and charging for additional features (Anderson 2009, 27) and is a common mode of exchange in software and social networking services. Similarly, donationware is a hybrid mode of exchange that involves offering a product or service for free but requesting donations to support the continued offering (http://www.techterms.com/definition/donationware). Donations are incented, but no fixed amount for them is set, and they are not expected from every user as payment would be in prototypical market-based exchange. The Creative Commons (http://creativecommons.org), a wittingly devised hybrid mode of exchange, provides users with various options to distribute their creative products while retaining copyright. Users may choose to allow commercial use (i.e., market-based exchange) of their product and/or applications of it or only noncommercial use (i.e., sharing). Certain features within the Creative Commons require users to license their new creations under terms identical to those chosen by the original creator, fostering the formation of ties and lingering obligations between creators and users.

Advancing the theorization of these hybrid modes of exchange and of the economies in which they are enacted, recent research has postulated that it is "no longer possible to believe in the a priori existence of regimes, systems or spheres" (Çalışkan and Callon 2009, 387). As pointed out by Karababa and Kjeldgaard (2013, 5), "domains of value are not separate and exclusive; they are interrelated and cogenerative." These studies call attention to the fact that distinct modes of exchange do exist but that these are not stable or entrenched in one or another preexisting regime of value or type of economy. Rather, as Çalışkan and Callon (2009, 387) affirm, modes of exchange are being continuously "combined, tinkered with and reinvented."

Hence, aligned with questionings of the widespread assumption that economic value is realized within markets whereas social value is realized outside them (Karababa and Kjeldgaard 2013), this study discusses value as a consequence of how consumers engage with resources and their exchange. As Miller explains, "value is most effectively created by its own use as a bridge between what otherwise would be regarded as distinct regimes of value" (Miller 2008, 1130). Similarly, Arnould recently noted that Weinberger and Wallendorf's (2012) work and Kozinets's research on the Burning Man festival (2002) already hinted at "linkages between regimes of value creation" and valuation processes that happen at "the boundaries of distinctive ecological systems" (Arnould 2013, 4). In this sense, the

sphere of realization of value is exactly the in-between, the bridging between the world of price and that of pricelessness (Miller 2008).

In sum, the notion of hybrid economies as examined across disciplines highlights the interdependence of market and society, favors analyses that focus on the continuous tension between different logics and modes of exchange rather than those assuming the existence of different regimes or spheres of value, and calls for understandings of value as a consequence of interaction, in particular, as an outcome of attempts to bridge different logics and modes of exchange. Nevertheless, we still lack a systematic examination of how the actual merging of logics and modes of exchange is achieved and sustained in hybrid economies and what is the role of consumers in shaping these processes. In offering such perspective, this study can help to illuminate the connections between consumer engagement in activities of value creation and its exchange.

PERFORMATIVITY THEORY

As described earlier, this study investigates how hybrid economies emerge in collaborative consumer–producer networks and what is the role of consumers in shaping and sustaining hybrid economies. These research questions are addressed through mobilization of performativity theory. Performativity theory derives from the work of language philosopher J. L. Austin (1962) and concerns the ways in which utterances and doings have intertwined effects (MacKenzie, Muniesa, and Siu 2007). A performativity is an utterance (i.e., statement) that is consequential and creates meaning—that is, it performs or carries into effect what it describes. Hence, a performativity is not just language, but language whose articulation is action in itself (Austin 1962). A common example of performativity is a minister declaring, "I now pronounce you husband and wife" (Heiskanen 2005).

Performativity is not achieved by words alone. In order to be performative, utterances need to be contextualized in arrangements or assemblages composed of people, technical systems, materials, and statements that enable the performative nature of an utterance (Callon 1998; Deleuze and Guattari 1987; Mackenzie et al. 2007). For instance, the minister's declaration of marriage is supported by the minister's role as an empowered representative of God and by the institution of the church, among other elements. As observed by Callon (2007), the signification and effectiveness of a statement cannot be dissociated from these assemblages that are effortfully put together to support the production of the facts that those same statements refer to. In fact, Callon (2007, 13), following Deleuze and Guattari (1987), proposes the term "sociotechnical agencements" over the commonly used "assemblages" to highlight assemblages' agentic role—that is, their "capacity of acting in different ways depending on their configuration."

Extending and enriching the Austinian notion of performativity, studies of the performativity of economics (Callon and Muniesa 2005) and marketing (Mason, Kjellberg, and Hagberg 2015) highlight that more than utterances can be performative. Some performativities, which MacKenzie (2007) has labeled "generic," are applications in practice of an idea by multiple actors in a way that reshapes the context in which they occur. Generic performativities occur, for instance, "when several (groups of) actors engage in different market practices that contribute to shape the market" (Kjellberg and Helgesson 2006, 849). The adoption of the shopping cart by retailers, for instance, completely modified shoppers' behavior. As Cochoy points out, shopping carts have moved the consumer from immediate price-based calculations to postponed quality-based rational judgments and favored "the transformation of the individual consumer into a collective one" clustered around the same shopping cart (Cochoy 2008, 17).

A performativity will be effective and shape reality provided that it is supported by sociotechnical agencements and linked to the binding power of earlier performativities (Butler 1993). That is, a performativity is effective when it "echoes a prior action, and accumulates the force of authority through the repetition or citation of a prior, authoritative set of practices" (Butler 1993, 19). In this sense, early performativities precede and condition the formation of new performativities and their sociotechnical agencements. In fact, effective performativities "become incorporated into the way market participants talk and think about options" (MacKenzie et al. 2007, 9). The success of shopping carts adoption in shaping shopper behavior, for instance, can be tied to the widespread adoption of the modern grocery business format, which had consumers perusing multiple shelves of branded products in ample sales floors (Cochoy 2010).

The historical capacity of performativities to self-reflect and actualize suggests that original performativities of exchange are key in shaping the future of an economy. However, performativities need to be continuously supported to remain effective. As noted by Callon (2010, 165), the stability of an effect, "when it exists, can be obtained only by means of a set of investments that are at once cognitive, material and institutional, without which its maintenance is not guaranteed." Moreover, even when a performativity is effective, it may be counterperformative (MacKenzie 2007). In other words, it may produce effects that backfire and undermine the performativity and the idea behind it (Callon 2007). For example, efforts to increase the volume capacity of shopping carts to stimulate additional purchases may lead consumers to reject the hard-to-maneuver maxi-carts and favor shopping baskets instead, ultimately reducing the amount of items a shopper will purchase during her visit to the store.

Performativity-based analyses of markets have generally focused on the performativity of market theories, models, and objects—that is, on explaining how marketing tools, conceptualizations, and equipment actually shape markets (Mason et al. 2015). Less attention has been given to performativities enacted by individual participants, such as the consumers, entrepreneurs, and companies who congregate in collaborative consumer–producer networks, and to how these performativities create particular versions of markets. One exception is Martin and Schouten's (2014) examination of the Minimoto market emergence. Martin and Schouten examine consumer performativities of marketing practices such as fabricating, promoting, and selling products, which ultimately result in the emergence of a new market. Yet their study does not examine the multiple modes of exchange that consumers engage with as that new market takes shape. Therefore, we do not know whether such consumer performativities inevitably lead to the development of a market economy or whether other types of economies (e.g., gift or hybrid) could emerge when consumers engage in certain marketing practices. In addition, some scholars have observed that simultaneous performativities compete in shaping markets (Kjellberg and Helgesson 2006), but the struggle between simultaneous performativities—that is, co-performativities—has not been examined in economies other than market-based ones.

Building upon this knowledge, this study employs performativity theory to examine an economy in the making rather than one that is ready-made (Kjellberg and Helgesson 2007; Latour 1987). In this study, performativity theory allows for examination of competing logics and modes of exchange and enables us to see how each and every performativity is enacted and seeks to shape the economy of a collaborative consumer–producer network. From this perspective, it can be evidenced that economies are not the product of intersection between two pure, existing economies but are constituted by an interplay of logics and modes of exchange that could occasion a hybrid if their struggle (Callon 2010) persists or move toward becoming more of a market or nonmarket-like economy should performativities favoring one set of logics and modes of exchange prevail.

THE COLLABORATIVE NETWORK OF GEOCACHING

The context chosen for this study, the collaborative consumer–producer network of geocaching, is an exemplar context where the workings of a hybrid economy can be observed. Since the origins of the hobby of geocaching, participants have switched between the roles of consumer, entrepreneur, and marketer, and have collaborated in developing and maintaining the hobby through a profuse exchange of resources among themselves, leading to the enactment of competing performativities of exchange.

Geocaching is a hobby currently practiced worldwide by an estimated 6 million people (Groundspeak 2013). The basic concept is that, using GPS technology and the Internet, players hide objects (caches) anywhere in the world and try to find each other's caches. Various free Web sites exist where players can register, but the main Web site for publishing coordinates and other information essential to the hobby is geocaching.com, a commercial enterprise originally created by a geocaching player turned entrepreneur and currently incorporated as Groundspeak Inc. Players can subscribe to the Web site for free or through an optional paid membership. Volunteer players verify the publication of all new caches and moderate discussion forums on geocaching.com. Other free geocaching Web sites exist, but they do not have as many registered users or published caches as geocaching.com. Players hide caches and are responsible for maintaining them and uploading information to the Web site of their choice. Local and regional communities of players organize geocaching meetings and events, many of which are sponsored by companies and are free to participants. Various participants across the world have developed successful geocaching-related not-for-profit initiatives, as well as businesses in online retailing, tourism, and publishing. Open-source developments related to geocaching have also flourished and are organized through geocaching.com or on peripheral Web sites and social media platforms. The quote below, excerpted from a geocacher's blog, illustrates the extent of collaboration among participants and the multiple modes of exchange they perform in order to advance one such initiative—namely, the organizing of a geocaching event called The BFL Bootcamp.

> Our event usually gets something around 200 people to come out to the woods for an evening of geocaching in late fall. We just held the eighth installment . . . this past weekend. There are other geocaching groups that organize similar events with an even larger turnout. . . . In all cases these events are collaborative endeavors between groups of volunteers (and a few voluntolds ☺). . . . For our volunteer efforts we don't have the finances to pay for commercial products so we rely on open source or free solutions. Everything starts with the promotion of our event, for free, on the largest geocaching website in the world. We don't pay extra to have our event mentioned on the site. Having our event listed there gives us exposure to thousands of geocachers that may be interested in our event. . . . As another example this year one of the organizers needed to find an articulated skeleton. He posted what he was looking for on Facebook and later that week when I saw a skeleton in store I posted a reply. I bought the skeleton for him. I even left it in the woods and sent him the coordinates on where to find it (you gotta love GPS). . . . All of our online work culminates in the creation of our "launch kit." This is a 20 page document that lists general and specific details about the caches placed as part of the event. . . . Everyone supports the document

creation through edits to what has been submitted [to Google Docs]. This spreads the workload around making it easier for everyone to contribute. The completed document is then made available on the event website which is a hosted WordPress site. There is a fee for the hosting but the website software is free. To really help make our event enjoyable we encourage attendees to load the Ontario Trails Project (OTP) map. The OTP is a crowdsourced project that aims to include all of the trails of Ontario. The data is supplied by geocachers and non-geocachers that walk the trails of Ontario. northernpenguin collects, filters and manipulates the data to produce a free, crowdsourced map of the trails of Ontario. There are over 14,000km of trails in the OTP (teamvoyagr, blog post, http://www.cachemania.com/power-people/rants/2013/12/).

For participants to be able to attend this free geocaching event, collaborative activity and multiple co-performativities of exchange have been enacted within the collaborative producer–consumer network. Even though not readily apparent, the struggle between these co-performativities is constant in the hybrid economy of geocaching. For example, the freely distributed Ontario Trail Maps mentioned in the quote above were considered threatening to map sales by organizations that manage parks and conservancy areas in Ontario, Canada. Northernpenguin, who develops the OTP, was approached by Garmin, who wanted to commercialize the maps, but the company retreated when it found out that the maps were being shared and registered under a Creative Commons license. Hence, an up-close examination of competing performativities of exchange in the collaborative consumer–producer network of geocaching serves to guide understanding of how hybrid economies emerge and are sustained through time.

METHOD

Data for this study were collected through a combination of market-oriented ethnography and netnography (Arnould and Wallendorf 1994; Kozinets 2010). Online fieldwork started in June 2008 and continued through November 2013. Online participant observation was performed using online platforms, including discussion forums, photo galleries, podcasts, blogs, and Facebook groups dedicated to geocaching. While collecting data from these multiple sources, the author took field notes that were woven into a preliminary analysis.

Offline fieldwork started in June 2008 and went through June 2012 and consisted of observation of and participation in geocaching hunts and events in the United States and Canada. Conversations and informal interviews with geocachers during fieldwork were captured in detailed field notes, and 11 in-depth interviews were conducted with participants (table 1), with all captured in audio and/or video recordings except for one email interview (Burns 2010;

TABLE 1

INTERVIEWS

Informant	Gender	Role	Location	Interview mode
res2100	Male	Geocacher, expert	Canada	Face-to-face, video recorded
northernpenguin	Male	Geocacher, entrepreneur	Canada	Face-to-face, audio recorded
Geos.o.s.	Female	Geocacher	Canada	Phone, audio recorded
Bryan Roth	Male	Groundspeak co-founder and partner	USA	Skype, audio recorded
Joan Mose	Female	Groundspeak volunteer program manager	USA	Skype, audio recorded
Annie Love	Female	Groundspeak product development manager	USA	Skype, audio recorded
DoubleDouble	Male	Geocacher	Canada	Face-to-face, video recorded
Free_World	Female	Geocacher	Canada	Face-to-face, video recorded
Mr. Montgomery	Male	Former member of Groundspeak volunteer team	USA	Email, archived
ON_Trekker	Male	Geocacher	Canada	Face-to-face, voice recorded
KhloeS	Female	Geocacher, newbie	Canada	Face-to-face, voice recorded

Hine 2005), which consisted in the exchange of several emails between the author and a participant, resulting in nine single-spaced pages of archived text. Informed consent was obtained from all informants interviewed, and the study's goals were disclosed in a personal profile the author created on geocaching.com.

Archival research covered material published online and offline from the time of geocaching's origins in 2000 until the commencement of participant observation. The final dataset comprises a large quantity of data in several formats: field notes (86 single-spaced pages), downloaded text (3,683 single-spaced pages), video (7.2 GB recorded and 28 YouTube videos archived), pictures (382), audio files (26 podcasts), and artifacts (e.g., t-shirts, collectible items, gifts received). Different forms of data were used as triangulation tools, and their interpretation was based on several iterative movements between theorization and close readings of the data. Naturally, the full extent of the data collected is beyond the scope of this article. Here, data related to performativities of exchange and participants' understandings of how resources should be distributed in the collaborative network of geocaching are given precedence in order to address the research questions described herein.

FINDINGS

The Emergence of a Hybrid Economy

Through analysis of the data in light of performativity theory, I identified the process through which the hybrid economies of collaborative consumer–producer networks emerge. At first, original performativities of different modes of exchange establish authority and motivate the assembling of the sociotechnical agencements needed for future performativities to be enacted. Tension and controversies, which are inevitably associated with competing performativities, compel participants to combine elements and logics from market- and nonmarket-based modes of

exchange into hybrid modes. As an outcome of such combination, the original performativity of a hybrid mode of exchange establishes authority and solidifies the sociotechnical agencements, which pave the way for future performativities of hybrid modes of exchange to be enacted in the network (figure 1). I describe this process as I recount the history of the collaborative consumer–producer network of geocaching.

Geocaching started on May 3, 2000, when Dave Ulmer, a computer consultant, thought of celebrating the recently improved accuracy of GPS signals by creating a stash game. He placed a stash near Portland, Oregon, posting its location coordinates on the online newsgroup sci.geo.satel lite-nav, a site populated by GPS users. Three days after Ulmer hid the stash, six other GPS users had found it. The newly created game was named The Global Positioning Stash Hunt. On an email sent to the newsgroup, Ulmer described the game as "an entertaining adventure game for GPS users . . . a good way to take advantage of the wonderful features and capability of a GPS unit" (GPSStash archives, May 12, 2000). The activity started to grow as more GPS enthusiasts went out searching for existing containers and hiding others, collaborating to expand the game. A mailing list exclusive to the activity was then created: GPSstash. Seeing the increasing popularity of the game, Ulmer was determined to find a better name for it. After an intensive exchange of messages on the GPSstash newsgroup, Matt Stum, another GPS enthusiast, suggested the following:

> Regardless of the final name, can we please replace the word "stash" with "cache"? . . . Here's my reasoning: 1) Several people have already stated their dislike for the term "stash" on the basis that it sounds illegal. To my ears, "stash" sounds a little immature, but that's a personal feeling. 2) "Back in the old days," especially in the Yukon and northern climes, explorers would leave caches of food and supplies at known locations so that they'd have them on their return trip. Some caches were "community property" and known by all who took a particular trail. If they needed

FIGURE 1

THE EMERGENCE OF A HYBRID ECONOMY
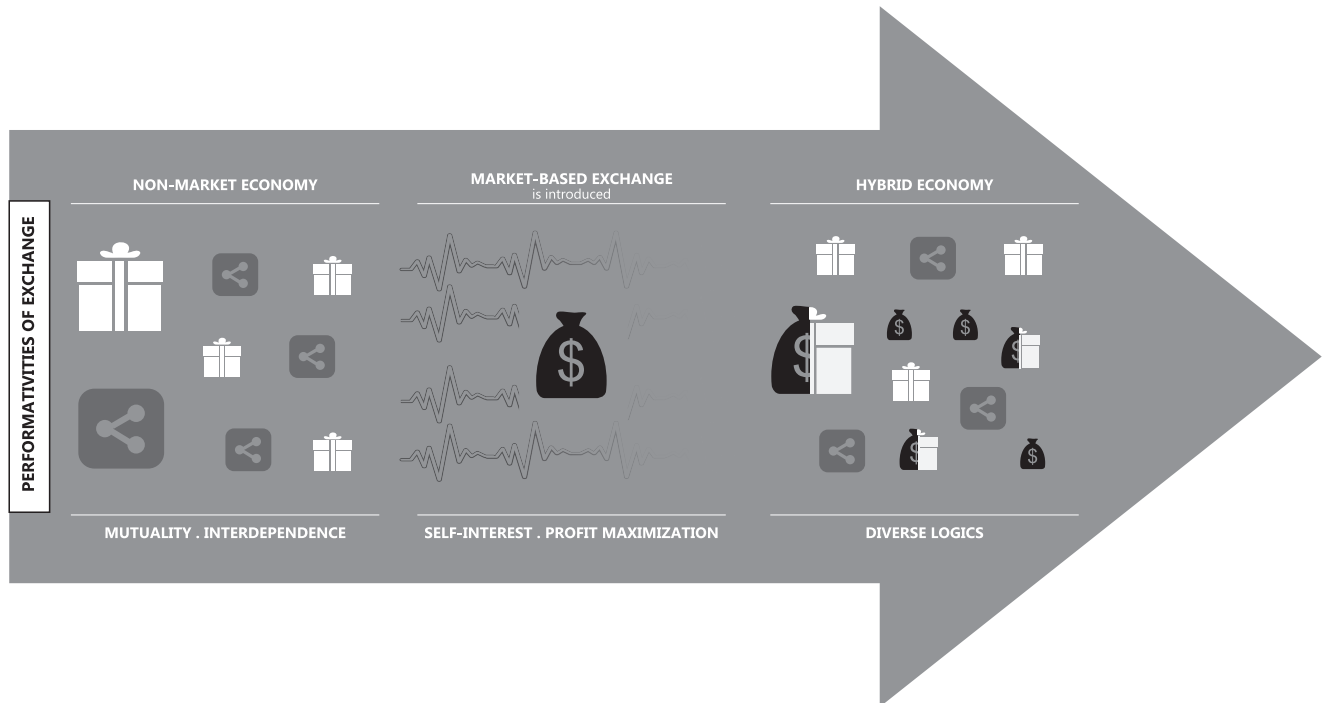
something, they took it, and if they had extras of something, they left it. Sounds familiar? 3) The word "cache" both brings forth feelings of nostalgia for the days of exploring, as well as a "techie" feeling for those that associate it with computer memory (Stum, posted on GPSstash, May 30, 2000).

The game was hence renamed geocaching. The newly adopted name stripped the game of the negative associations of the word stash (i.e., a hiding spot for money or illegal drugs) and promoted positive associations of communality and time-honored sharing practices. This original performativity was replicated and reinforced within the collaborative network in numerous others, and their combined effects worked to temporarily stabilize the geocaching economy as a communal one. Extended collaboration to advance the game was constantly called for in these first months. The rules put forward by GPSstash members reinforced Ulmer's vision of geocaching as a collaborative (rather than competitive) game based on the trading and circulation of objects among players: "Take something, leave something, and write in the book." These rules were further reinforced by the activities of those pioneer players who continued to hide and find caches, sharing their geographic coordinates through the mailing list.

Soon after, the first performativity of market-based exchange was enacted in the collaborative network. In July 2000, Jeremy Irish, a Seattle-based Web developer, became interested in geocaching. Acting as an embedded entrepreneur (Martin and Schouten 2014), Irish decided to create his own Web site for geocaching. At its launch, geocaching.com had a very simple interface and included the geographic coordinates and information about the 75 caches available in the world at the time. Irish announced the Web site, indicating his openness to input and feedback, including a request for additional collaboration, and highlighting that his effort in building the Web site was geared toward helping to improve other players' experience. Nevertheless, the initiative to launch geocaching.com was controversial. For example, on gpsgames.org, a database of caches alternative to geocaching.com, Web master Scout offers his version of the history of geocaching. On the events that followed the launching of Irish's Web site, Scout reports:

> From the outset, Jeremy Irish considered ways to make money from geocaching. Geocaching.com was setup as a .com site, not .org. He sold banner ads to GPS manufacturers and retailers . . . . Another controversial move was the monopoly control Irish unilaterally imposed over the database of cache locations, refusing to provide the full list to anyone.

Criticisms of his actions on the original gpsstash mailing list were met with the establishment of his own mailing list hosted on his own geocaching.com site (http://geocaching. gpsgames.org/history/).

Scout's post illustrates that this co-performativity, including logics associated with market-based exchange and altruistic sharing, became a site of tension within the collaborative network. Although Irish's statement promoted understandings of collaboration, openness, and support, the sociotechnical agencements surrounding it (e.g., the use of a .com address for the Web site, exclusive ownership of the cache database, establishment of a moderated discussion forum) were indicative of the self-interested logic typical of markets.

This tension is similar to that which has been found in studies of consumer resistance to cooptation attempts (Thompson and Coskuner-Balli 2007). Here, however, at the core of this tension is not the concern that cooptation would attract unqualified consumers to the collective, as observed elsewhere (Schouten and McAlexander 1995; Thomas et al. 2013); rather, pioneer geocaching players feared centralization of control over the development of the game due to "geocaching.com's monopolistic control over the hobby" (http://geocaching.gpsgames.org/history/).

Because Irish's initial performativity was controversial, the developer and his supporters engaged in reiterative performativities associated with logics of mutuality to assure pioneer participants that the new Web site was not meant to gear the collaborative network's economy into becoming a pure market-based economy and that participants would be able to continue to access key resources freely. At the climax of those exchanges, Irish pledged:

> Fine. I, Jeremy Irish, CEO of Grounded, Inc. will never make this a pay to play web site for Geocaching. It is in the best interest of all players that the game remains free and the non-commercial sharing of these coordinates through the web site. Not that I'm planning for anything, but in the case that there was some sort of gambling cache (who knows, weirder stuff has happened), I suppose that would be in essence a "pay to play" cache. But the traditional game will remain purely free. How's that? (Irish, posted on GPSstash, June 4, 2001)

The rather official tone of Jeremy's public statement, alongside his status as developer of geocaching.com, worked as a sociotechnical agencement supporting this performativity. In fact, after Jeremy uttered the promise that he would never make geocaching a pay-to-play game, the controversy surrounding his original performativity of market-based exchange seemed to settle. Later, attempts at rekindling the controversy are toned down by manifestations of those pioneer participants who are in favor of geocaching. com, as the email exchange reproduced below illustrates:

> ex geocacher <(email removed)> wrote in message news: (email removed)

> Are you proud that Jeremy Irish gets 2 million a year in revenue according to his own local newspaper while you didn't [get] a penny, yet founded the sport of geocaching?
>
> >
>
> YES! I hope he makes much more! As the inventor of geocaching, I feel honored that someone would put forth such a great effort to promote and develop one of my ideas. Thank God I don't have to operate a web site! Dave Ulmer (posted on discussion forums on www.gps-forums.net, December 2003)

This unfolding of original co-performativities bears similarity to that which Lessig (2008) has observed in open-source software communities. As Lessig notes, "The bigger issue was a general recognition that free software would go nowhere unless companies began to support it. Thus, while there was whining on the sidelines, there was no campaign by the founders of key free software to stop these emerging hybrids. So long as the work was not turned proprietary—so long as the code remained 'free' in the sense of freedom—[no creator of the software] was going to object. . . . And indeed, the freedom to make money using the code was as much a 'freedom' as anything was" (Lessig 2008, 183).

Much like most open-source communities and many other Internet-based collaborative networks, geocaching was born based on principles of sharing, decentralized collaboration, and freedom (Benkler 2006). The launching of geocaching.com meant that Irish claimed ownership of the database of geocaches contributed by individual players, impeding others from developing geocaching Web sites from the same database, hence violating those principles and generating controversy. Yet the core of the geocaching activity is not Web development, but rather the hiding and seeking of geocaches, and through his pledge, Irish established that this core feature was to remain free. Hence, even though the "whining on the sidelines" noted by Lessig (2008) is also present within geocaching, a performativity that assured the maintenance of the hiding and seeking of geocaches as being free of charge seemed sufficient to placate most participants' concerns over the introduction of market-based exchange in the collaborative network's economy.

These successful early enactments of performativities of market-based exchange alongside other nonmarket modes of exchange conditioned future co-performativities in the collaborative consumer–producer network. After this original co-performativity, participants could expect other attempts to commercialize aspects of geocaching to be made and expect tension and controversy to emerge around such attempts. As suggested by performativity theory, expectations like these may end up producing the very phenomenon they anticipate (Butler 1999, xiv). Accordingly, entrepreneurs who saw opportunities in geocaching began to make efforts to minimize tension and circumvent

anticipated controversies by employing modes of exchange that would not be readily identifiable as pure market-based exchange. Such performativities were supported by the assembling of sociotechnical agencements, allowing a combination of logics and modes of exchange to be performed. For example, a few months after the launch of geocaching.com, Irish realized he could not maintain the Web site by himself and approached Elias Alvord and Bryan Roth, as recounted by the latter:

> [Jeremy] said to Elias: "I need your help. You know all the stuff, the servers, the routers." Together they approached me. They said: "you can do business development and contracts, and we feel like we need to . . . incorporate, just to protect ourselves from anything that might go wrong. What do you think about starting a company for the three of us? It's just a hobby, there's no money in it, but a company about what the three of us really liked: outdoor recreation and gadgets." We all thought this sounded cool. We were working full time jobs and would do this in the nights and weekends, answering e-mails, and kind of building the business from the background. . . . We didn't take any outside funding for the company. We all donated and used home computers to get started. It was a lot of work between the three of us" (Bryan Roth, interview, August 2010).

Together, Irish, Alvord, and Roth formed Groundspeak Inc. Their entrepreneurship tale is dotted by performativities of gift-giving: their love for the activity that prompts them to dedicate all of their free time to servicing it and the use of donations rather than "outside funding" to support the start-up. A PayPal button to receive donations was added to the Web site, but its .com status was maintained. Donations were invited in exchange for "premium memberships," and the logic of reciprocity that was implicit in free memberships was extended to a commercial feature:

> We don't have any premium features yet, but we could use some help supporting the site. If you become a premium member, we guarantee we'll never change the price from $30 a year and give you access to advanced features as we build (Rossof 2011).

Through this performativity, what seems to be a market-based transaction happens (one-year membership in exchange for US$30), but instead of the conventional self-interested and largely impersonal exchange commonly seen in conventional market economies, the logics of mutuality, reciprocity, and the relevance of interpersonal relations, commonly associated with gift-giving, are involved to sustain the transaction. The terms of the transaction are hence determined in an uncommon way: although Groundspeak keeps adding exclusive features that increase the use value of premium memberships for some players, the membership price does not increase. In return, participants who may find little use for the premium features continue to make yearly payments to support the Web site.

For being one of the first performativities to merge logics and properties from market and nonmarket modes of exchange within the collaborative consumer–producer network of geocaching, the successful implementation of premium memberships leads the economy of geocaching to assume a hybrid status at this point. However, this status required (and continues to require) extensive efforts in assembling sociotechnical agencements to support the original and follow-up performativities of hybrid modes of exchange.

For premium memberships, Groundspeak has set a fixed price for the transaction, reducing calculation (i.e., price-based valuation [Cochoy 2008]) from the consumer side. In addition, the company founders and employees, as well as other participants, frequently make statements that frame the purchase as an opportunity to support the Web site ("Show the world that you love geocaching. Your Geocaching Premium Membership helps to grow and support the game you love" [geocaching.com]), offering ready-to-use justifications translated into community language for participants who choose to engage in that hybrid transaction (Finch and Geiger 2010). Bringing technological elements into the sociotechnical agencement, Groundspeak allows participants to gift premium memberships to one another through geocaching.com, further enabling the intermingling of logics of gift and market-based exchange into the performativity of a hybrid mode of exchange. On the same Web site, paying participants' status as premium members is displayed under their chosen geocaching name on each post or log they make on geocaching.com, whereas nonpaying members are labeled "tadpoles," in a playful reference to the anthropomorphized frog Signal, Groundspeak's mascot. Participants who purchased one of the early premium memberships are granted the status of charter members, which they can maintain as long as they continue paying for yearly premium memberships. Groundspeak also reminds other players to "be sure to thank the Charter Members you meet on the trail since the site would not be here today without them" (Groundspeak 2013), hence offering charter members opportunities for increased status and esteem within the network in exchange for their continued purchase of premium memberships.

Even though Groundspeak does not disclose its financial information, most participants consider it evident that the company has been successfully operating by way of premium memberships. That is, the original performativity of a hybrid mode of exchange in the collaborative network of geocaching has been successfully supported by the sociotechnical agencement described above. In online discussions, participants track the number of users on geocaching.com, estimate the number of premium memberships sold, and engage in conversations about Groundspeak's financial status and the company's relations to other participants, assuring each other of the company's

success. In such discussions, while observing the successful performativity of the hybrid mode of exchange that characterizes premium memberships, participants manifest and reiterate utterances that work to reproduce and naturalize it (Butler 1999), as illustrated below:

> Jeremy has been quite open about how they have "built a sustainable business with geocaching." The business model that they use incorporates a community; relies on a network of volunteers; and offers its basic product for free. By doing so, they were able to take something that began when one guy left a container in Oregon and build it into a near monopoly (in terms of its listings and participants). I do not think you could do that without being a business and making decisions accordingly (geodarts, geocaching.com discussion forum, July 15, 2011).

> Jeremy was able to see that he might be able to make money from a Geocaching web site. The other sites didn't have much of a business model and certainly weren't able to grow like GC.com did. . . . Jeremy had to come up with a business model to grow Geocaching.com. . . . [It was] a "freemium (http://en.wikipedia.org/wiki/Freemium)" model. You gotta give the guy credit for figuring that out before the word was even invented (though he was by no means the first to use it) (tozainamboku, geocaching.com discussion forum, July 18, 2011).

Although praise abounds for hybrid modes of exchange at the center of the geocaching economy, such threads are peppered with critical posts, suggesting that some participants still resent Groundspeak's control over geocaching, as well as the company's profit-making character.

Hence, even though early performativities of market-based and hybrid modes of exchange were successfully enacted alongside nonmarket modes of exchange in the collaborative network, paving the way for a hybrid economy, this does not mean that there is no underlying tension regarding co-performativities or that the struggle between forces attempting to shape the collaborative consumer–producer network's economy ends after the first successful performativity of a hybrid.

Various subsequent performativities in the geocaching network reinforce this understanding. For instance, in late 2010, the GPS manufacturer Garmin launched its own free geocaching Web site, opencaching.com. Garmin's attempts to offer a free geocaching listing service have met with resistance within the collaborative consumer–producer network and have achieved very limited success. In fact, in an example of counterperformativity, Garmin's performativity of the gift has backfired and made participants more aware and critical of the elements of market-based exchange supporting the transaction, as the quotes below illustrate:

> Garmin isn't doing itself any favors, firstly by positioning their site as "Opencaching, nothing to see, no big evil corporation name to see here," and secondly, by using the same 11-letter name as a community-run site (TeamTraen, geocaching.com discussion forum, November 30, 2010).

> Try to create my handle on the "open"caching website and it tells me that my email address is already used. Because I had used that email address three years ago to setup an account on Garmin, when I purchased a car GPS. Fine . . . I log into the account on "open"caching (how can it be "open" when it's so tied in to Garmin?). My "open"caching handle is my Garmin handle. I change it. Fine (Ecylram, geocaching.com discussion forum, December 7, 2010).

As participants' comments indicate, the fact that Garmin's performativity of gift-giving is supported by the same sociotechnical agencements that enable the corporation's commercial activities makes this performativity seem a deceitful manipulation. Garmin's noncollaborative nature is also noted by participants in performativities that have the effect of further normalizing the successful performativity of hybrid modes of exchange adopted by Groundspeak, as in the following statement made by a geocaching player:

> The only way [Garmin] could ever rival Groundspeak is to make some deal to share caches with them. It would take them 50 years to build up a data base anything near this. At this point we pretty much all are behind Groundspeak. People may have complaints sometimes, but it's impossible to have anything that is run by people and not have any complaints. They have really done very well by us, and done their best to do so. Geocachers tend to be a pretty dedicated bunch. I can't see people running in herds off to any other organization. Groundspeak was really the groundbreaker here. They have built up a culture at this point. A culture that revolves around them. People love Groundspeak, in their own way. Sorry Garmin, can't see it happening (Sol seaker, geocaching.com discussion forum, November 26, 2010).

Beyond the advantages of network effect enjoyed by Groundspeak for being a pioneer, what seems to lie behind the lack of success for opencaching.com is that Garmin failed to take into account the historical forces shaping the dialectic balance between performativities of market and nonmarket logics and modes of exchange in this hybrid economy. By July 2014, Garmin's Web site had not yet been adopted by a significant number of geocachers, despite the company's efforts to adjust the sociotechnical agencements supporting its performativity by injecting additional nonmarket elements into it.

The hybrid economy of geocaching has been thriving for 14 years (Boehrer and McGonigal 2014), and myriad performativities of hybrid modes of exchange alongside various market-based and nonmarket modes of exchange have been enacted in it over time (table 2). Nevertheless, this study's focus on performativities prevents it from allowing this apparent stability to conceal the continued struggle between co-performativities and the work undertaken by consumers and other actors to sustain the geocaching economy as a hybrid despite the latent tension arising from

TABLE 2

MODES OF VALUE EXCHANGE IN HYBRID ECONOMIES

Mode of value exchange	Predominant logics	Definition	Examples from the collaborative network of geocaching
Commercial exchange	Independence between parties Self-interest Maximization of profit Rationalization	Transactions between two parties involving the transfer of a good or service in exchange for an amount of money considered equivalent to it	– FTF Magazine, a monthly magazine that prints stories and articles contributed by geocachers. Sold for subscription fees. – Geocoins are available for sale on online stores
Theft	Independence between parties Self-interest	Unilateral transfer of property that takes place without mutual consent (Geary 1986)	– Geocoins and travel bugs left in caches are stolen – Entire caches are stolen
Barter	Independence between parties Self-interest	Direct exchange of goods and services where no money or equivalent medium of exchange is involved, and with the least social implications possible	– Cache swag trade: when geocachers find a cache, they may take something from it, but they should leave something of equal value in turn. – Geocoin trade between collectors in events
Gift-giving	Interdependence between parties Self-interest/mutuality	Nonreciprocal and nonobligatory (in appearance) exchanges or transfers of ownership involving qualitative relations between people (Belk 2010; Mauss 1950/1990)	– Gift of premium memberships: geocaching.com makes possible for any player to anonymously give a premium membership for a fellow geocacher. – Some players hide caches as gifts to other players
Intracommunity giving	Independence between parties Mutuality	"Type of gifting when community members in one social position give to community members in another position in which the central goal is intracommunity, rather than interpersonal, relationship work" (Weinberger and Wallendorf 2012)	– Free entrance to events: most geocaching events are free to all participants. Volunteers enlist companies as sponsors in order to cover the events' costs.
Sharing	Interdependence between parties Mutuality	To divide an inherently finite good or to grant free use rights to a good that can be considered nonrival. (Belk 2010, 725).	– Potluck meals during geocaching events – Groundspeak's API open to selected developers: the Web site allows a few selected partners to use its database to create new apps and software.
Donationware	Independence/interdependence between parties Mutuality	Mode of exchange whereby a valuable is free, but financial donations are requested or accepted to offset production and maintenance costs	– Podcacher podcast: weekly audio shows available on iTunes and on a Web site. Donations from listeners are incented.
Freemium	Independence/interdependence between parties Self-interest/mutuality	Mode of exchange where the basic component of a good or service is offered for free, but premium features must be paid for	– Premium memberships to the Web site geocaching.com: allows exclusive access to geocaches hidden by other premium members and additional features of the Web site
Creative Commons	Independence/interdependence between parties Self-interest/mutuality	Different types of licenses (e.g., Attribution/ Commercial/Non-commercial, Share/Share-alike) that help creators retain copyright over a valuable while allowing others to copy, distribute, and make selected use of their work. May or may not allow for commercial exchange	– Ontario Trail Maps: Co-created by local geocachers, the software is published under the Creative Commons, allowing anyone to use and transform the maps as long as the resulting product is also shared online.

competing performativities of multiple modes of exchange (Kozinets 2002).

The Role of Consumers in Sustaining a Hybrid Economy

As highlighted in the findings presented thus far, participants in the hybrid economy of geocaching recurrently engage in efforts to assemble sociotechnical agencements supporting hybrid modes of exchange and co-performativities of pure modes of exchange, thereby easing the tension that surrounds these performativities and contributing to the emergence of a hybrid economy. These investments can be explained by the unique configuration of consumption and production manifested in the collaborative network. Constantly switching between the roles of producer and consumer; engaging in embedded entrepreneurship; and collaborating to produce and access resources,

heterogeneous participants work to support a hybrid setup that allows them to successfully reconcile their diverse socioeconomic interests—which in turn allows geocaching to thrive. Yet, when these efforts are not sufficient to ease tension and impede conflict, participants also work to reconfigure performativities and sociotechnical agencements, realigning the collaborative network's economy with their preferred hybrid form. In the following sections, I describe how participants' engagement in collaborative consumption and production, and their efforts to reconfigure sociotechnical agencements sustain a hybrid economy. Table 3 summarizes these engagements and illustrates them with additional examples.

Engaging in Collaborative Production and Consumption

Centered on hiding and finding geocaches, geocaching requires constant collaboration among participants to produce and access resources that are key to playing the game. This collaborative approach to producing and accessing resources materializes in participants' efforts to preserve the hybrid nature of the economy. The case of the Ontario Trails Project (OTP), introduced in the Context section, illustrates this association. The OTP was initiated and has been coordinated ever since by northernpenguin, a member of the Ontario geocaching community. As an embedded entrepreneur (Martin and Schouten 2014), northernpenguin was an experienced geocaching player who saw the need for detailed trail maps while searching for geocaches hidden in nature. He describes his motivation for starting the project as "an itch that had to be scratched" (northernpenguin, interview, 2011), referring to when he initially employed his knowledge of programming to create custom maps for his GPS receiver of all trails he had hiked. A trail can only be mapped after it has been traced by a GPS device, and northernpenguin sensibly invites collaboration from other geocachers who hike the area to share data on the trails he has not yet covered. Announcing the launch of the maps on the discussion forums at geocaching.com, he observes: "Now, it's going to take me a long time to hike and bike all the trails in Ontario, but if anyone sends me a GPX file/GPS Tracklog file, I'll be happy to add that information to the map" (northernpenguin, March 27, 2009). Hence, even though northernpenguin commands the knowledge and skills needed to individually develop the maps, he does not have access to all of the necessary material resources needed to map all trails in Ontario. In the following interview excerpt, northernpenguin explains how he has collaborated with other participants to develop a project that addresses local geocachers' needs for detailed trail maps:

A lot of times you are going out looking for a geocache and find yourself driving around the block trying to figure out

exactly how you are getting in the middle there. So what we started doing is, as you are hiking in these trails looking for geocaches, your GPS has the "bread crumbs" and what we do, we turn it up to the maximum detail and when we get back we save these tracklogs. There's about 30 people now doing it. They will send me all their tracklogs and I assemble them all together into a file and while I file, it produces a map that can be viewed in the Garmin receiver (northernpenguin, interview, 2011).

As with most initiatives undertaken within the collaborative consumer–producer network of geocaching, the OTP is then configured as a collaborative project that binds the embedded entrepreneur "to subordinate profit-seeking to the needs of the community" (Martin and Schouten 2014, 21). This need to align entrepreneurial activities with communal needs and goals compels participants such as northernpenguin to search for hybrid solutions to distribute the outcome of collaborative production and motivates other participants to support such arrangements. In the case of the OTP, northernpenguin assembles the data into maps that are shared with all geocachers on an independent, noncommercial Web site that he maintains. On this Web site, northernpenguin also invites geocachers to share their tracklog data and asks for monetary donations through a PayPal button ("If you find this map useful, and want to help me cover some of my costs, donate").

Due to the collaborative nature of the project, geocachers who contribute to it constantly switch from the role of individual consumers of GPS signals and tracking devices to that of co-producers of trail maps that they and other geocachers will then make use of, hence switching back to the role of consumers. Players who do not contribute by sharing data may also engage in collaborative production by identifying programming bugs, proposing specific improvements to the maps, and offering instructions to other players on how to download the maps on different GPS devices. As these inputs are worked into the OTP by northernpenguin, the reach and relevance of the project increases, attracting other collaborators and allowing geocachers to access additional tracklogs contributed by heterogeneous participants (Thomas et al. 2013) such as municipal organizations and open-source communities:

Northernpenguin: After the inception of [the Ontario Trails Project] we had a few hundred kilometers of trail just by [aggregating tracklogs]. I had Land Information Ontario contact me; the [Canadian] Ministry of Natural Resources gave me 5,000 kilometers of trails. . . . I had the Trans Canada trail, the trust behind them, they gave me all of their trail data.

Interviewer: Did you say *they* contacted *you*?

Northernpenguin: Yes, the Ministry of Natural Resources contacted me and gave me all their information. I wrote to the major trails—the Bruce Trail, the Ganaraska Trail, the Trans Canada Trail, Guelph Hiking Club. Pretty much got

TABLE 3

THE ROLE OF CONSUMERS IN SUSTAINING HYBRID ECONOMIES

Consumer engagements sustaining a hybrid economy		Definition	Additional examples from the collaborative network of geocaching
Collaborative production and consumption		Heterogeneous participants switch roles, engage in embedded entrepreneurship, and collaborate to produce and access resources. Collectively produced resources are exchanged through hybrid modes that allow participants to successfully reconcile their diverse socioeconomic interests.	– Participants collaborate to create content for the Podcacher, a series of podcasts produced by Sonny and Sandy, a husband and wife geocaching team. The couple launched their weekly podcast show in July 2005 and has produced hundreds of episodes since. Episodes are available for free on the Podcacher website and on iTunes, and each show includes interviews with other participants, accounts of the couple's caching hunts, discussions of GPS and technology news, and geocaching stories shared by listeners. Acknowledging the contributions of other participants, Sonny and Sandy have adopted hybrid modes of exchange to distribute the podcasts. Listeners are invited to support the show through donations (facilitated via PayPal or money orders). Recurrent, monthly donations are framed as memberships of four different categories ("BASIC: Help support PodCacher as a greatly-appreciated contributing friend. AUGMENTED: Cultivate and nourish PodCacher as a part of the sustaining community. PREMIUM: Provide a boost to help grow and expand PodCacher in the exclusive expansion society. BENEVOLENT ANGELS: Watch PodCacher flourish as part of this elite group."). Sonny and Sandy have also made Podcacher available in multiple platforms where episodes are offered for free, but from which the producers derive income from click rates and advertising.
Reconfiguring performativities and sociotechnical agencements	*Creating Zones of Indeterminacy*	Participants intentionally blur the logics of different pure modes of exchange into the hybrid to prevent or defer the determination of the meaning of a controversial transaction or to render such determination impractical.	– Faced with a collective claim by more than 1,300 participants to "open its API [application program interface] to third party developers," Groundspeak responds by referring to that request as "an accepted idea under review" and performs a complicated hybrid mode of exchange for its API, making it free to some participants but inaccessible to others and linking it to the freemium mode of access to geocaching.com. The terms of use for the API, disclaimed on geocaching.com, indicate such blurring of properties: "The goal of the Geocaching.com API program is to allow trusted third parties to develop applications and services using the geocaching.com dataset which will primarily serve Groundspeak Premium Members. The API is provided royalty free, so that developers can generate revenue (or not) as they see fit, without having to pay royalties to Groundspeak. Although some level of services are provided for Groundspeak Basic Members via the API, the goal is to make those Basic Member services available for introductory experiences within applications and services. It is Groundspeak's goal for Basic Members who enjoy the introductory experiences to upgrade to Premium Membership for full application/service access" (http://www.geocaching.com/live/api_license_agreement.aspx).

TABLE 3 (*CONTINUED*)

Consumer engagements sustaining a hybrid economy	Definition	Additional examples from the collaborative network of geocaching
Enacting tournaments of value	Participants join negotiations of value aimed at resolving controversies that emerge regarding how a valuable should be exchanged.	– When Groundspeak launched a free introductory smartphone application to boost sales of its full-featured app (sold for US$9.99), other participants raised concerns about the impact on the game resulting from a large number of new users adopting the free app. A tournament of value ensued, in which Groundspeak is accused of privileging profit-making over community goals, and participants argue for what they consider better modes of exchange for the apps: "Dump the free app. Decide that we don't need the follow through from free to paid. Accept only those that are willing to buy the app without the free version" (fbingha, posted on November 5, 2014). "It may even make sense to make the intro app $0.99 or $1.99 to reduce the number of mischief makers. You might be able to offer the full app as an upgrade with a discount" (tozainamboku, posted on November 5, 2014). In a 25-page discussion thread, matters of rank and status differences between experienced and new players are also brought up as participants negotiate alternative modes of exchange for the apps. Since then, Groundspeak has been reportedly working to improve access to its smartphone applications.

the same response from all of them. The Trans Canada Trail said: "here is everything, by all means, have it. We love what you are doing" (northernpenguin, interview, July 2011).

Although some organizations supported the OTP, aligning their goals with those of geocaching players and sharing resources with the collective, others were not as pleased with the collaborative production and consumption that characterizes the project. In addition to Garmin, one of the main companies in the GPS manufacturing industry, other organizations contacted northernpenguin to convey their intention to adopt a market-based mode of exchange for the collaboratively produced maps: "I've had people from Open Street Maps, they have told me that my project was a waste of time because they're gonna have the data on Open Street Maps. The Ontario Trails Council really doesn't like me—they sell recreational maps" (northernpenguin, interview, 2011).

Challenged by these private agencies and companies who commercialize maps, northernpenguin resolves the tension by formalizing the collaborative nature of the project under a Creative Commons license (Attribution–ShareAlike):

> I put the attribution on there so we don't get somebody turning around and claiming it is their project or trying to sell it. I call myself the coordinator because I'm only responsible

for a portion of the data that's in there. I just pulled everything together (northernpenguin, interview, July 2011).

By registering the project under one of the Creative Commons licenses, northernpenguin assures that profit-oriented participants would need to align their goals to those of the collaborative project in order to benefit from it. At the minimum, future developments based on the co-created maps would have to refer to the OTP as a source and also be shareable. Moreover, the license formally establishes the collaborative nature of the project and sets a hybrid mode of exchange as the default for exchanging these collaboratively produced resources. Most participants who engage in the collaborative consumption of the OTP benefit from having the maps licensed on a Creative Commons attribution and have expressed their support for the adoption of a hybrid mode of exchange. In doing so, these participants make investments that work to sustain the hybrid nature of the geocaching economy.

Reconfiguring Performativities and Sociotechnical Agencements

Despite most participants' preference for a hybrid configuration for their collaborative network, economic forms sitting at the ambiguous and unfamiliar boundaries between traditional economic forms usually pose practical

difficulties for their participants (Gell 1992), which may lead to increased tension (which could eventually become conflict), ultimately threatening the stability of the hybrid economy. The latent tension inherent to co-performativities of multiple modes of exchange can escalate into conflict when participants with different understandings of the logics behind a hybrid mode of exchange must interact in order to exchange resources. Motivated to align the transaction with their individual understandings, these participants may thoroughly question the logics behind a performativity and search for flaws in (or even attempt to disassemble) the sociotechnical agencements supporting it. Conflict may also be triggered when attempts are made to shift resources being exchanged through one mode of exchange to another. Participants may find such initiatives controversial because they challenge the historical and reproductive power of earlier performativities of exchange associated with a resource.

In order to reduce potential conflict and support the hybrid economy, participants work to reconfigure controversial performativities and the sociotechnical agencements associated with them. They may do so in two ways: First, participants may intentionally blur the logics of different pure modes of exchange and reduce others' motivation to question the logics of a transaction in order to allow them to engage in the same transaction despite espousing different understandings of its meaning. I refer to this as creating zones of indeterminacy. Second, participants may enact tournaments of value, wherein they enter in extended negotiations of value with the aim of resolving controversies regarding the appropriateness of specific modes of exchange. Each of these reconfiguration efforts is discussed below.

Creating Zones of Indeterminacy. When adopting hybrid modes of exchange in collaborative networks, consumer–producers may be faced with questioning of the combination of logics behind the transaction and with attempts at disassembling the sociotechnical agencements they effortfully put together to support the performativity. The case of GSAK, discussed above, is illustrative of such dynamics. When Clyde first created GSAK, he shared the software and its code with all interested geocaching players. For seven months, GSAK was distributed for free in a performativity of a nonmarket mode of exchange. When he first decided to start charging for it, Clyde posted the following statement to geocaching.com discussion forums:

> First the bad news. I have given the future of GSAK a fair bit of thought. I have now come to the conclusion that I can no longer sustain the current level of time, effort, and money drain, using the current totally free model. If development and support of GSAK is to continue (and I think people want this) there has to be changes. I have decided to make GSAK shareware. Before you start with the howls of derision please read on. Now the good news. Although technically shareware, my proposed version will be a somewhat

liberal interpretation. I guess you could say my version of shareware is more like fixed priced "donation ware". I am just giving you the opportunity to thank me in a more tangible way—it is not compulsory. Though I would prefer otherwise, the bottom line is that you can still use GSAK for free. For the full scoop on how I see this working please visit http://gsak.net/Register.htm" (Clyde, June 4, 2004).

His performativity of a hybrid mode of exchange for the software, by inviting, was welcomed by many GSAK users, who manifested their appreciation for Clyde's efforts to create and support the software. Yet, only a few days after his performativity of a hybrid mode of exchange, Clyde's posts to the discussion forum signal latent tension between him and GSAK users who, rather than placing donations to reciprocate Clyde's efforts, were binding their donations to the development of specific software features—that is, these users were reconfiguring the hybrid transaction to adjust it to their understanding, and make it more similar to market-based exchange. To those users, Clyde responded:

> On the subject of feature requests, by all means put them here. The features in GSAK are mainly user driven and those asked for the most or benefit the most users tend to get priority. Non trivial requests take longer to pop up, but if they will benefit all/most users then there is a good chance they will eventually get done. However, please do not place a request and say "I will register if you do such and such." . . . I really don't want to go down the track of adding esoteric features just for the sake of chasing a buck. I would much prefer to keep it main stream and hopefully keep most users happy (Clyde, June 16, 2004).

In order to avoid the escalation of that tension into conflict, in his subsequent performativities of exchange for GSAK, Clyde started to reconfigure the sociotechnical agencements supporting his performativities of exchange by intentionally blurring the logics of different pure modes of exchange into the hybrid. Lainer-Vos (2013) has referred to such acts of intentionally clouding logics of different modes of exchange associated with a transaction as "blurring practices." As Lainer-Vos explains, "Sometimes . . . especially when actors seek to avoid the limits and obligations associated with gift giving or market exchange, they use blurring practices so as to prevent or defer the determination of the meaning of the transaction, or at least to render such determination impractical" (Lainer-Vos 2013, 146).

The complex pricing and discounting structure set up by Clyde indicates his reflexive blurring of properties into the hybrid mode he is currently employing to distribute GSAK, which resembles the freemium mode:

> With the increase in the GSAK user base, administration tasks are becoming more demanding. With the upcoming Windows Vista I also see more time and money being invested. I could go on, but I'm boring you now and I already

think you get the point. So I guess I am saying the foreseeable future has past, and the paradigm of "free updates forever" is just unrealistic. Remember, your pre V7 registration of GSAK is good for life (However, support for those versions will eventually be dropped). If you feel that V7 is not worth the upgrade fee you can continue to use your current version at no extra cost.

1. Anyone that paid the current price of $25 (Introduced around 1st December, 2006) will be able to upgrade to V7 for free. Roughly, this means that if you registered your copy of GSAK after 1st December 2006, Upgrading to V7 will not incur any extra cost.

2. Anyone that has made a donation in addition to the registration of GSAK, upgrading to V7 will be free.

3. If you registered GSAK anytime 6 months prior to 1st December, 2006 (you paid $20) the upgrade fee will be $10. That is, roughly from 1st June 2006 to 30th November 2006

4. For all other registered users the upgrade fee will be $15

Future upgrades?

Once you have a registration for V7, all upgrades for that version will be free. This includes bug fixes and new feature additions. So this means releases like 7.1, 7.2, 7.3 . . . . will all be free upgrades. When version 8 finally comes out I may (or at least reserve the right to) charge a similar upgrade fee (Clyde, GSAK forums, January 4, 2007).

Through this and similar performativities, Clyde's blurring of the logics and elements combined in the transaction creates a "zone of indeterminacy"—that is, a space within the hybrid economy in which participants can engage in exchange "without sharing a consensus regarding the meaning of the object that changes hands and the rights and obligations that follow from the exchange" (Lainer-Vos 2013, 146). At this zone of indeterminacy, participants are able to attribute different understandings and meanings to the same transaction, reducing questioning about the appropriateness of the mode of exchange employed, hence minimizing tension.

By eliminating the need for consensus in order to conduct a transaction, the zone of indeterminacy allows Clyde to continue to offer parts of the software for free to some participants at the same time as other participants continue to make donations to support the project and receive free upgrades in return, while others still simply pay to download and upgrade the software. Responses to one of Clyde's announcements of GSAK upgrade charges reflect the effects of blurring practices and the type of justifications participants employ for conducting transactions in a zone of indeterminacy:

I agree that Clyde's upgrade policy is reasonable. I don't know what I originally paid for GSAK a couple of years ago and I am not interested enough to check. I have received back more than the cost in support and features. I also don't know if I have made any additional contributions over that time, but again, I don't care enough to check. I will pay the

upgrade fee regardless of whatever I may have contributed in the past because the software and support is well worth it (Chemonier, gsak.net discussion forum, January 19, 2007).

Like Chemonier, many participants seem to have little concern for determining the meanings behind this transaction, and it is evident that such determination would be impractical. The time lapse between one transaction and another (version 8 of GSAK would be released four years later, in 2011), the relatively small price charged for the software, the complex discounting system, and Clyde's allusion to his many reasons to charge for the new version of his creation reduce participants' motivation to question the appropriateness of the transaction and allow the hybrid mode to be successfully performed despite the tension that followed its initial performativity, ultimately working to sustain the hybrid status of the collaborative network's economy.

Enacting Tournaments of Value. Through the unfolding of the hybrid economy of geocaching, many times participants engaged in what can be called "tournaments of value" (Appadurai 1986, 21): negotiations of value that stand apart from ordinary transactions in that they aim at resolving controversies that emerge when a participant manifests the intention to adopt a mode of exchange for a certain resource that clashes with prior performativities of exchange for that same resource and, hence, with current understandings of how the valuable should be exchanged.

The case of Moun10Bike's geocoins illustrates the process through which controversies can be defused, and emerging conflict avoided, through tournaments of value. Geocoins are geocaching-themed coins that are minted, purchased, or traded by geocaching players, who then register and track the movement of geocoins on geocaching. com. Displaying the contents of a folder where he keeps his personal collection of coins, Moun10Bike, the creator of the first geocoin, explains:

I kept the first one for my personal collection . . . . It started off really slowly. It was about six months after I minted my coins and placed them, that anyone else started making coins that I know of. It was almost like a Beanie Baby craze. There was the geocoin craze, they became desired items (Moun10Bike, YouTube, May 28, 2010).

Although most geocoins are traded and sold as commodities among consumer–producers, the geocoins created by Moun10Bike have been removed from commercial exchange. Shortly after his first batch of coins was released, Moun10Bike was hired by Groundspeak as a software developer, enabling him to more tightly control the tracking and circulation of his geocoins. For example, if any of his coins is offered up for sale against his wishes, Moun10Bike has the ability to deactivate it. Moun10Bike himself does not sell his coins, but rather trades them for other geocachers' personal coins or distributes them as

gifts. Most players acknowledge the creator's preference and will make great efforts to preserve Moun10Bike coins from commercialization. Occasionally, however, a participant will attempt to sell one of the Moun10Bike coins, instigating controversy and motivating a tournament of value characterized by intense negotiation (Appadurai 1986).

For example, when one of the original Moun10Bike geocoins was offered for auction on the online marketplace eBay, the seller contacted Moun10Bike beforehand to obtain his blessing for the auction. The seller's goal was to raise money to mint a memorial geocoin. Although Moun10Bike could have impeded the sale, he decided to let it happen and bid on his own coin to "save it," as the following excerpts from a thread on the geocaching.com discussion forum explain:

> Why is Moun10Bike bidding on his own coin??? (Phil, November 15, 2005)
>
> I have told everyone that has contacted me about selling my coins that, while I don't endorse auctioning them off, it is not my decision to make. I don't feel like I can say no, but I do feel that by bidding on and possibly winning this coin back I can perhaps "save it." I know, that sounds pretty lame, but for some reason it seems cathartic to me. Don't take this to mean that I am angered at Chris's decision to auction off the coin; he was very conscientious and contacted me well beforehand to explain his intentions. He gave me the opportunity to say no, and I declined (Moun10Bike, November 15, 2005).

As the auction unfolded on eBay, participants on the forum questioned the seller's motives and asked him to end the auction early and even invited other players to "withdraw their bids" to let Moun10Bike buy his coin back at a "fair price" (clairept, November 16, 2005). There was no ready-made solution at the disposal of participants for the exchange of such a valuable item. A pure mode of exchange from either the market or the gift economy was not seen as the ideal solution, and no hybrid modes had been performed before that could accommodate participants' multiple understandings of the coin. Because Moun10Bike's intentions regarding the exchange of his coins were clear, and participants' motivation to clarify the meanings of this transaction was high, it was also not possible to blur the properties of multiple modes of exchange so as to create a zone of indeterminacy. Hence, the negotiation continued (adding up to more than 200 posts on the thread) until a player suggested re-auctioning the coin for charity, a suggestion that Moun10Bike endorsed:

> An idea. Assuming that [Moun10Bike] gets the coin back in the auction, he could turn around and sell it for a charity. Then he might get a tax deduction . . . and the coin would give something back by both having the first sale go to the memorial coin fundraising and then again to charity raising? Just a random thought! ☺ (LeeCarl, November 16, 2005)

> Ooh, I like this idea! ☺ I think everyone wins with this scenario! Here's what I say we do: Let the current auction proceed as posted. No auction removals, nobody losing eBay privileges, etc. After the auction ends, whomever wins (I assume it will be me at this point, but who knows?) puts the coin back up on eBay and auctions it off with 100% of the proceeds going to charity. Thanks, LeeCarl! Now I just have to figure out what charity I will choose! (Moun10Bike, November 16, 2005)

Reacting to those messages, the geocoin seller proposes a solution that satisfies his initial goal for the commercial transaction, yet respects prior performativities of gift-giving, as well as Moun10Bike's preferences for how the geocoin should be exchanged. Using the discussion forum to address Moun10Bike, the seller explains:

> OK—[Moun10Bike's first name], we never got to speak on the phone, but here's my plan. I have no idea where this auction will end—and I certainly hope you are the winner—if you re-auction it for charity, it will go for a much, much higher price. Any proceeds left over from this current auction, after the memorial coins, will go to minting geocoins for Corgi Aid and 100% of the proceeds from those coins will be donated. I'll make sure you and the [local geocaching association] are notified and it's confirmed once the coins are made. Sound OK? (Applesteak, November 16, 2005)

Although Moun10Bike's coin ended up being commercialized, it was commercialized in a fully entangled manner (Miller 2002; Weiner 1993), not following the conventional logics of market-based exchange. The complex solution participants settled on (auctioning the coin twice, with profits going to the minting of a charity coin in the first round and full proceeds from the second round going to charity) allowed Moun10Bike to preserve the value of his coins and his own status within the collective. The value of the coin also increases as it is used as a bridge to link market and nonmarket logics and quell controversy within the hybrid economy of geocaching.

As the case of Moun10Bike's coin illustrates, not all participants equally engage in tournaments of value, though. Tournaments require strategic skill and pertain not only to the exchange of resources but also to matters of "status, rank, fame, or reputation" (Appadurai 1986, 21). Drawing from his connection to Groundspeak, a participant of high status within the collaborative network, Moun10Bike was able to reassert his condition of legitimate owner of the coin, clearly indicating his hierarchical superiority among those participants involved in tournament. However, because any participant with access to a valuable can fairly attempt to perform alternative modes of exchange for it within the network, Moun10Bike would not be able to impose his preferred mode of circulation for the coin without mobilizing other participants in this tournament of value. It is in this sense, as noted by Weinberger and Wallendorf

when discussing the value negotiations required in intra-community gift-giving, these processes "draw a boundary around the community in creating a sense of we-ness while also asserting acceptance of a hierarchical relation between different community members" (Weinberger and Wallendorf 2012, 84). Hence, tournaments of value not only work to sustain a hybrid economy but are also consequential for the power and value realities of the collaborative network.

DISCUSSION

This study has examined how the hybrid economies of collaborative consumer–producer networks emerge and are sustained. It has demonstrated that hybrid economies emerge through the successful unfolding of originally competing performativities. In the case of geocaching, these were performativities advancing logics from both market and nonmarket economies, and the resolution of the tensions surrounding them promoted shared understandings and expectations that multiple modes and logics of exchange may successfully coexist within the economy of the collaborative network. These shared understandings and expectations regarding exchange lay the groundwork for original performativities of hybrid modes of exchange that become naturalized through follow-up performativities that coexist with various other logics and pure modes of exchange, characterizing the economy of the geocaching network as a hybrid.

This study has also shown that, despite latent tension between competing performativities, the hybrid economy is sustained through consumer–producer engagements in collaborative consumption and production and through their assembling and reconfiguring socio-technical agencements. Performativities of hybrid modes of exchange and the assembling and reassembling of sociotechnical agencements are constantly required within a collaborative network because the hybrid status of these economies is constantly under threat of destabilization by the struggle between competing performativities of market and nonmarket modes of exchange. I now discuss this study's implications by comparing it to prior studies and suggesting directions for future research.

How Consumer Engagement in Collaborative Production and Consumption Shape Hybrid Economies

In introducing the findings, I made selective comparisons with other research that has studied how consumers interact with multiple logics and modes of exchange. Such work has noted that participants' relative power and ideological preferences may help to explain why the economy of a consumer collective assumes a given shape (Giesler 2006, 2008; Kozinets 2002; Weinberger and Wallendorf 2012).

This study's insights suggest that to understand how hybrid economies emerge it is important to attend to not only what consumers' preferences and relative power are but also the economic activities consumers engage in. Indeed, when discussing Burning Man participants' attempt to position their collective against the market, Kozinets noted that it is the employment of alternative modes of exchange, the production of a variety of consumption experiences from one member to another, and the enactment of other consumption discourses and practices that shape the economy of the Burning Man collective (Kozinets 2002, 24). The findings presented here, which are deliberately attentive to the active role of consumers in shaping economies, have discussed consumer engagements with modes of exchange and demonstrated that it is through the successful promotion of certain discourses and practices concerning resource distribution that performativities of exchange become effective. Below, I discuss how consumers' collective engagement in production and consumption activities, which are interdependent domains of economic action that exist alongside exchange, also contributes to the shaping of hybrid economies.

Collaborative Production. Prior research examining collaboration between consumers and companies has noted that interactivity and deliberation are norms in activities of collaborative production (Jenkins et al. 2013; Kozinets, Hemetsberger, and Schau 2008). However, consumer engagement in production activities varies across collaborative networks. In certain collaborative networks such as the one for geocaching that I studied, consumers and producers frequently engage in collaboration. In fact, consumers and producers not only collaborate but also switch roles, in a fashion similar to what Thomas et al. noted in the distance-running community: "single individuals and single organizations often take on both consumer and producer roles . . . these roles are themselves porous, with actors participating in both as well as moving between them" (Thomas et al. 2013, 1017). Cova and White also discuss the effacement of boundaries between consumers and producers in certain online brand communities where "staff members and consumers have the same status with regard to the brand community, that is, they are indistinguishable insofar as they belong to the same community. On the one hand, staff members consume brand products; on the other, consumers can be transformed into producers of events, ideas, and even brand accessories" (Cova and White 2010, 258). In such cases, we can expect that hybrid economies will emerge that are characterized by common goals and a positive and productive sum of forces, reflected in a tendency for consumers to engage in efforts to sustain the economy as a rather stable hybrid, in much the same

way that participants in the collaborative network of geo-caching do.

In other collaborative networks where consumers engage in fewer production activities, participants still rely mostly on resources supplied by marketers. This dynamic seems to characterize most brand communities and consumer collectives who occasionally partake in value creation activities alongside marketers (Schau, Muñiz, and Arnould 2009). In such contexts, although the outcomes of consumer collaboration may be resources that are valued by marketers, participants will rarely engage in power disputes with marketers over how these resources should be exchanged (Arvidsson 2008; Cova, Dalli, and Zwick 2011) as their mutual resource dependency implies that the most efficient way to operate in this economy is by searching for compromise that allows for resources to be exchanged in mutually beneficial ways (Thomas et al. 2013). In such contexts, consumers are likely to enact performativities of resource exchange that blur market and nonmarket logics in attempts to involve marketers in their cause (Kozinets 2002; Scaraboto and Fischer 2013). Conversely, some marketers will engage in efforts to assemble nonmarket elements into the sociotechnical agencements supporting their performativities of market-based exchange in attempts to disguise these performativities' dominant market logics. Hence, we might also expect the economy for such collectives to unfold as a hybrid, albeit one where the struggle between performativities of market and nonmarket modes of exchange is less strongly marked by tension. Nevertheless, unsuccessful attempts to coordinate goals and reconcile performativities of multiple pure and hybrid modes of exchange may raise tension and generate conflict. In such cases, participants are less likely to collaborate in efforts to sustain the economy's fragile hybrid status, challenging the existence of the collective (Thomas et al. 2013; Weinberger and Wallendorf 2012), leading to unsuccessful business attempts, and threatening entire industry segments (Cova and Pace 2006; Mele 2011).

Finally, sometimes consumers collaborate among themselves to produce resources in networks that, intentionally or not, threaten marketers and other producers. This dynamic frequently unfolds in contexts of consumer activism (Kozinets 2002; Kozinets and Handelman 2004; Price and Peñaloza 1993) and resistance (Giesler 2006, 2008; Sandlin and Callahan 2009) and in subcultures of consumption where performativities of market-based exchange are perceived as co-optation attempts (Thompson and Coskuner-Balli 2007). In these collaborative networks, consumers may challenge market practices that are not aligned with their understandings of how resources should be distributed, or simply dismiss all logics and elements typically associated with market economies. We may expect the economy of such collectives to be as pure as possible, bearing in mind the previously discussed embeddedness of the economic into the social (Polanyi

1944) and the inescapable permeability among logics and modes of exchange within any economy (Appadurai 1986; Çalışkan and Callon 2009; Parry 1986). Hence, attempts at blurring elements from different modes of exchange in such collaborative networks will be faced with participants who are highly motivated to question the meanings of each transaction and who are not likely to engage in reconfiguration efforts that could minimize the tension resulting from controversial performativities.

Collaborative Consumption. With the increasing popularity of "alternative modes of acquisition and consumption" (Bardhi and Eckhardt 2012, 882), it has become evident that not only has the production of resources turned into a collaborative affair, but so have their distribution and consumption. The term "collaborative consumption" applies to diverse forms of consumption that are not based on individual ownership, such as access-based consumption (Bardhi and Eckhardt 2012; Chen 2009), organized sharing (Giesler 2006; Ozanne and Ozanne 2011), and other forms of consumption characterized by collectivity, reliance on multiple modes of exchange, and object circulation (Botsman and Rogers 2010; Corciolani and Dali 2014). This study contributes to this literature by further unpacking the relationship between the distribution of consumption resources and the shape of the economies of consumer collectives. It demonstrates how the cumulative effect of performativities of exchange enacted in collaborative consumption may shape the economy—as well as the social structure—of such consumer collectives.

Consumers may access resources in collaborative consumption through either market-based or nonmarket-based modes of exchange exclusively or through a combination of modes. In studying the case of Zipcar car-sharing users, Bardhi and Eckhardt (2012) found that, in access-based consumption that is mediated by a for-profit company, consumers access resources exclusively through market-based exchange. Market mediation, the authors defend, results in lack of consumer identification with the objects being consumed and with other consumers who access the same object. Despite Zipcar's efforts to try to establish a brand community of car sharers, there is negative reciprocity among users and inhibition of solidarity in the collective. Hence, the original framing by Zipcar of resource exchange as being limited to market-based modes supported by sociotechnical agencements that highlight the company's regulatory power (e.g., member checks upon registration, setting of consumer responsibility rules, and enforcement of a penalty system) has likely restricted the economy of this consumer collective to being one that is essentially market-based. Because performativities of nonmarket modes of exchange have no historical referent in the collective, Zipcar's own performativities of nonmarket based or hybrid modes exchange (e.g., offering free driving hours or allowing users to gift memberships) are

counterperformative of the nonmarket logics the company is hoping to foment among consumers. Hence, consumers are unlikely to make attempts at applying nonmarket logics or embedding nonmarket elements into the sociotechnical agencements which support their own performativities of exchange. For instance, a Zipcar user is unlikely to feel compelled to clean the car after use as a "thank you" to the company or to other users when it is widely known that Zipcar rewards users with a US$15 discount for cleaning the cars themselves. This privileging of modes of exchange mostly characterized by logics of independency between parties likely reflects a loosely connected collective, where solidarity is seen as detrimental to individual goals and where individuals are interchangeable for one another. Hence, it is understandable that no strong sense of community emerges in such a context.

In contrast, in contexts of collaborative consumption where co-performativities of multiple modes of exchange are enacted early on and sustained through time, as in the case of Bookcrossing analyzed by Corciolani and Dali (2014), generalized reciprocity is likely to flourish, and a strongly connected collective is likely to emerge based on solidarity and interdependence among participants, even though individual members may remain anonymous to each other. As the findings presented here suggest, however, co-performativities of pure and hybrid modes of exchange alone are not likely to sustain a hybrid economy. As Arsel and Dobscha's (2011) research on Freecycle has evidenced, when participants attribute different meanings to the same transaction, various forms of tension emerge that create impediments for the collective. The reconfiguration of sociotechnical agencements that support performativities of exchange within the collective could relieve tension and contribute to the stability of the collective's economy. For example, the tension that arises from a disconnect between Freecycle's policy "to remove personal stories from listings to discourage pity exchanges and increase market efficiency" and other participants' "strong need for divestment rituals and the transfer of symbolic meaning of goods through storytelling" could be placated through the enacting of blurring practices, creating a zone of indeterminacy that would allow participants to carry out transactions even though they may possess different understandings about the logics, meanings, and responsibilities such transactions entail.

Limitations and Directions for Future Research

This study's examination of performativities of modes of exchange can be used to hypothesize conditions under which valuables will shift from being exchanged through one mode to another and help to advance a stream of research looking at objects' biographies (Appadurai 1986; Bradford 2009; Curasi, Price, and Arnould 2004; Epp and Price 2010; Kopytoff 1986). Existing studies have looked at the circulation of objects, their trajectories, and shifts between states of commercialization in contexts such as the family and households, which represent small, tightly-knit collectives usually characterized as nonmarket economies. By examining the hybrid economies of collaborative consumer–producer networks, objects' trajectories can be traced in a broader and more diverse context that includes companies, consumers, and entrepreneurs, all with diverging interests and different understandings about what those objects are and how they should be exchanged.

Indeed, this study's findings offer evidence that much effort is required of participants in terms of reconciling logics and modes of exchange in order to reshape their understanding of what is appropriate for a particular object (as in the case of the tournament of value that unfolded to determine how one of Moun10Bike's first-series geocoins would be exchanged). Our understanding of the shaping of economies could be much advanced by examinations of the transformational influence of objects that bridge logics by moving in and out of a network (Epp and Price 2010) or by assuming different statuses throughout their trajectories (Appadurai 1986). Hence, future research might evaluate the role of object exchange in shaping hybrid economies. I speculate that entangled objects could be a relevant research focus, not only given their capacity to mobilize and connect participants who may have different understandings and expectations regarding resource exchange, but also because entangled objects are considered special tokens of value for a collective. As such, entangled objects are likely to heighten individuals' interest in their exchange and to motivate tournaments of value, becoming a potent force that contributes to the shaping of an economy.

Although I strived to represent the different participants involved in the collaborative network of geocaching, companies other than Groundspeak were not represented, and policymakers and regulators were absent from my analysis. Such actors did not play a strong role in the collaborative consumer–producer network I studied but may do so in other contexts. Hence, researchers interested in examining other collaborative consumer–producer networks should consider how performativities by multiple companies and the assembling of elements associated with market competition and property rights into sociotechnical agencements may influence the emergence and shaping of a hybrid economy.

Finally, this study has been primarily concerned with how consumer–producers perform exchange and therefore shape the economy of a collaborative network. Yet, as Kjellberg and Helgesson (2006) have observed, modes, objects, and agents of exchange are co-constituted. For instance, in the collaborative network of geocaching, Irish's enactment of the freemium mode of exchange may have influenced participants' choice of what objects to exchange within this network, as well as Irish's own

economic and social practices outside of geocaching. This type of reflective analysis is beyond the scope of this article, and further work is called for on the impact of performativities of exchange on network participants and on the nature of the objects that circulate in such hybrid economies.

DATA COLLECTION INFORMATION

The author conducted all of the in-person and online fieldwork herself from June of 2008 until November 2013, as part of her dissertation research. Participant observation data were collected mostly in the Greater Toronto Area and other areas of Ontario, Canada. Data were also collected during brief fieldwork incursions in various cities in the United States and during a two-day geocaching event on May 22–23, 2009. Canadian informants were interviewed in-person by the author (one telephonic interview excepted), and American informants were interviewed by the author via Skype or email (one informant). The author prepared and analyzed all of the data without the aid of research assistants. Data were analyzed by the author using field notes, photographs, video, artifacts, and online notes, screen captures, and text files.

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