1   Are Online "Communities" Really Communities?

In 2009, then-Georgia Tech master's student Vanessa Rood Weatherly and I interviewed members of the "brand community" website for owners of Mini Cooper cars. This quote from one of our research subjects has always stuck with me:

> I had a grandson who was born premature and died and everybody was just really supportive and everybody was there for me. I couldn't talk to anybody else about it on a daily basis. But I could talk [on the Mini Cooper website]. So I'd check in every day . . . They were actually the first people I told when the doctor said he wasn't going to make it. That's the first place I went. I couldn't wake anybody else up at 3 in the morning. When it's like that, intense and close, it's easier to reach out to other people sometimes through the website and say it . . . They weren't so close that they were that involved, so they could listen and give me advice better . . . My daughter got a kick out of the fact that when she was sent to the hospital in Denver, I think she got 12 packages, cards, or flowers from people from the Mini site before she got anything from friends or family. They responded so fast. Overwhelmed by them before she ever even got anything from people who actually knew her. So like I said, it's a lot of support. (Rood and Bruckman 2009)

If it is 3 a.m. and you are facing devastating news, who would you turn to for support? It seems counterintuitive

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that this bereaved grandmother would turn to a website for fans of a car brand. But for her, the site was a supportive community. The site was not a substitute for friends and family she knows face-to-face, but a powerful supplement.

Humans do better when we support one another – when we form supportive communities. The discipline of sociology is focused on studying all the ways that groups of people can be organized, and how that shapes the mutual support that emerges as a result. Internet communication reshapes social support in complicated ways. In this chapter, I will explain the ways that the internet has changed the forms that community takes. But first, we need to step back and define "community."

What Is a "Community"?

What is your idealized notion of a "community"? Are the subscribers of a subreddit a community? What about people who follow a hashtag on Instagram? What really is a "community"?

Cognitive science can help answer the question. I will argue that the word "community" refers to a *category* of associations of groups of people. To understand "community," it helps to have a more nuanced view of a "category." Eleanor Rosch found that categories in the mind are not organized by simple rules of inclusion and exclusion, but by *prototypes*. Each category has one or more best or "focal" members. For example, a robin or sparrow is a better example of a bird than an ostrich or penguin (Rosch 1999). These best members are the prototypes for the category, and we understand other members in relation to the best members.

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Within a category, each item has a degree of membership. The degree of membership of an item in a category depends on its similarities to and differences from the focal members (Lakoff 1987). Rosch notes, however, that talking about "the focal members" of a category is a linguistic convenience. It would be better instead to refer to the "degree of prototypicality" of each member of the category. Some that have a high degree of prototypicality we may informally call the prototypes for the category.

Surprisingly, degree of prototypicality is objective – it can be measured with reaction-time studies. A person asked if a robin is a bird will respond more quickly than when asked if a penguin is a bird. The difference is a fraction of a second, but is measurable and repeatable. These results are generally consistent across individuals from a particular cultural background (Rosch 1999).

Categories can have either clear or fuzzy boundaries. For example, the categories "car" and "truck" have fuzzy boundaries, and sport-utility vehicles (SUVs) are members of both groups. However, SUVs are somewhat remote members of both the "car" and "truck" categories – a Ford Explorer is not an ideal example of either a car or a truck.

The prototype theory of categories answers lots of hard questions. Suppose you are in an art museum looking at a monochrome, painted canvas, and wondering whether this is "art." The answer is: "Art" is a prototype-based category. Works of art with a high prototypicality for Western culture are things like the Mona Lisa by Leonardo da Vinci and paintings of water lilies by Claude Monet. A monochrome canvas "is art" in the same sense that a

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Ford Explorer is a car – it's a member of the category with significant differences from the most prototypical members.

Returning to the category "community," in this light, asking whether something "is a community" is a poorly formed question unlikely to yield deep insights. The category "community" has fuzzy boundaries. Instead, we can ask how similar a particular group is to our ideal models of community. This is a more productive line of inquiry, because it challenges us to reflect on the nature of our prototypical models of community, and explore in detail their specific features and why each feature might or might not matter (Bruckman 2006).

The notion of "community" is culturally relative. For many Americans, our prototypical communities are small towns and religious congregations. These are groups of people who see one another regularly and have shared interests. Everyone understands the idea of community in relation to different prototypes, and people from other cultures have different ideal models.

Different sorts of community provide diverse kinds of value to their members. One value that our prototypical congregation or small town might provide is support in times of crisis. By that metric, the Mini Cooper online community was successful. The group provided the bereaved grandmother with someone to talk with (at any hour of night), and condolence cards and flowers that arrived before those from other friends. Howard Rheingold's beautiful chapter "The Heart of the WELL" in his book *The Virtual Community* documents a host of ways that members of The WELL (an early and influential

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bulletin board system) supported one another – like rallying around the parent of a child with leukemia, and researching how to arrange a medical evacuation for a member who became seriously ill in New Delhi (Rheingold 1993). Help in times of crisis is just one element of social support that is easy to identify. Nancy Baym writes that it is common "to find members of online communities and social networks providing one another with the sort of emotional support often found in close relationships" (Baym 2010).

Thinking about "community" and how it manifests online, key questions to ask are:

- What features of face-to-face communities provide meaningful support?
- How can we design online sites to provide those kinds of value to their members?
- In what ways can online interaction provide new forms of support that are not possible face-to-face?

For completeness, we must also ask:

- In what ways can face-to-face communities sometimes be oppressive, and how can we lessen the downsides when groups interact online?

Social Capital

In a famous paper, sociologist Robert Putnam collected data on how many Americans join civic associations, and found that the proportion of people who participate in such associations dropped dramatically from the 1960s to the 1990s.

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As one example of declining civic connection, he found that people were still bowling, but joining fewer bowling leagues. His paper and subsequent book were called "Bowling Alone," and became influential in part because of the catchy title. He speculates on a variety of reasons for these trends. For example, during this period the number of women who work outside the home rose. Many stay-at-home mothers contribute much of the labor for civic organizations, and working women have less time to volunteer. Second, he speculates that time spent watching television (which was high during those years) might discourage in-person activity (Putnam 1995).

Are we all bowling alone? Does it matter? These are important questions for sociology, the study of society. One way sociologists measure social support is with the concept of "social capital." Social capital is defined as "the sum of the resources embedded in social structure, or the potential to access resources in social networks for some purposeful action" (Appel et al. 2014). Ties that we make in one context may later be useful in others, providing information, influence, and solidarity (Sandefur and Laumann 1998; cited in Adler and Kwon 2002). Participation in civic organizations is one way that we can build social capital, getting to know others in our local communities. If participation in such organizations has declined, can the internet help increase our connectedness in new ways (Resnick 2001; Wellman et al. 2001)?

Strong and Weak Ties

An important aspect of the impact of the internet on social capital is the distinction between "strong" and "weak" ties,

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first articulated by Mark Granovetter in his landmark paper "The Strength of Weak Ties" (Granovetter 1973). A strong tie is a close friend or family member – someone you would ask to loan you money or to take you to the doctor. A weak tie is an acquaintance – like a childhood friend you haven't seen in a few years, someone you used to work with, or a friend-of-a-friend who you've met a few times. A weak tie is someone you could ask a question.

Weak ties have surprising power. When Granovetter surveyed people about how they got their current job, most people learned about the opportunity through a weak tie. This makes sense because your strong ties connect you to a relatively small number of people, and your weak ties can connect you to orders of magnitude more.

Connections among strong ties create *bonding capital*. Weak ties provide *bridging capital*. You are likely a member of a number of highly interconnected groups – like your family and the people at your workplace or school. Those people all know one another. Within a circle of tightly connected individuals, strong ties provide access to a bounded number of people and ideas. Now let's suppose I have a weak tie to someone at another university. That person can introduce me to many people at their university, creating a bridge between otherwise separate social networks. Knowing someone who is part of a different social group is a bridge to a large number of new ties, one degree of separation away.

Knowing people with a wide variety of life experiences and knowledge is useful because they can assist you in different situations. If you are suddenly diagnosed with an

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illness, you might use a large social network to find someone else who has that illness and can tell you about it. If you are moving to a different city, having a large social network means you might be able to connect to someone who can tell you what neighborhoods are good to live in.

Intriguingly, having more ties gives people a broader perspective that helps them to have good ideas. Ronald Burt studied the creation of innovative ideas within a company, and found that people who have more connections across different groups are more likely to contribute good ideas (Burt 2004). If the company is facing a crisis, the person who has chatted with someone in the London office and also knows the person who manages shipping and receiving is more likely to understand the broader problem than someone who only knows people in their own work group. Weak ties – especially ones that bridge groups – are powerful.

With a bit of background on the power of weak ties, it's easy to see the value of internet communication in enhancing social capital. Computer-mediated communication is spectacular at maintaining weak ties. We use platforms like Facebook to keep in touch with old friends from school and past workplaces. Social media connects us to friends of friends, which massively expands our social networks. And it's easy to meet new people online who can become new weak ties. Online social networks enhance bridging capital (Ellison et al. 2007). Online interaction also tends to encourage face-to-face interaction (Hampton et al. 2011). Online and face-to-face community are mutually reinforcing.

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Persistent and Pervasive Community

Social capital mediated by networks is different from face-to-face social capital in interesting ways. Keith Hampton notes that the new social capital is more *persistent* and *pervasive* (Hampton 2016).

Mobility is one cause of reduced connectedness. Social networks facilitate persistent ties and are "a counter-force to mobility" (Hampton and Wellman 2018). It's increasingly easy to stay in touch with people you haven't seen face-to-face for many years. Staying in touch requires effort, but it helps that many networks enable person-to-network communications – one message can be seen by many people. Contrast the effort needed to painstakingly write individual holiday cards to a long list of people versus the effort of posting a holiday message on a social network. Personalized messages are more powerful, but the social network message still has value and requires a tiny fraction of the effort. When I posted on Facebook that I had signed the contract to write this book, 155 people "reacted" to the post, and thirty-two left a congratulatory comment. Commenters include: family, faculty and staff at my university, faculty at other universities, former students, graduate-school classmates, two fellow moderators from Reddit, and a close friend of my mother. I was able to reach all those people by just typing a few lines of text.

Hampton writes that pervasive awareness "is an affordance of the ambient nature of digital communication technologies that provides knowledge of the interests, location, opinions, and activities embedded in the everyday life

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events of one's social ties" (Hampton 2016). Being generally aware of what's going on with members of my social network makes that network more potentially useful to me – through social media, I know who recently vacationed at the spot I am considering going to, who lives in the town I'm visiting, and whose teenager recently, like mine, learned to drive. This general awareness enhances the social capital I find in my weak ties.

Co-located community can have serious downsides. Hampton and Wellman write that "The nature of community in the nineteenth century, or in nearly any form where people lived in a densely knit network of close ties, had its drawbacks: the density of relations implied a high degree of conformity to similar beliefs, backgrounds, and activities. Rigid hierarchies governed who could communicate with whom" (Hampton and Wellman 2018, 644). Individuality and freedom don't always thrive when your business is everyone's business. Escaping the intolerance of old-style communities is a plus. Unfortunately, some of that intolerance is being recreated by computer networks. Hampton and Wellman note that this is increasingly apparent in trends toward online public shaming and doxing (revealing personal information of otherwise anonymous or pseudonymous individuals). I'll talk more about these downsides in Chapter 6.

Some side-effects of the new persistent and pervasive form of community are surprising. One is the *cost of caring*. Through social networks, we can become aware of tragedies that befall weak ties. Without social networks, I might not know about the tragic death of my college

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roommate's cousin. Knowing about it, though, causes me genuine stress (Hampton et al. 2015).

Another surprising side-effect is the *spiral of silence*. If you feel your listeners are unlikely to agree with you, you are less likely to speak up about an issue. The communications literature has long documented this phenomenon in face-to-face settings. Remarkably, Hampton found that people who interact more online are less likely to speak up about an issue both online and in person. Online interaction heightens your awareness that others might find your views disagreeable, and this lowers your likelihood to discuss controversial issues both online and in person (Hampton et al. 2014). Although we have an idealized notion that online discussion can enhance the public sphere, with citizens engaging with the important issues of the day, this can't happen in reality if no one is willing to discuss difficult topics and there are no spaces that foster civil discussion of difficult issues.

Third Places

Some online spaces are more successful than others in helping members to develop or maintain social ties. What are the design features that help? One first step to answering that question is to better understand what features of physical spaces are conducive to more beneficial social contact.

In 1989, sociologist Ray Oldenburg published a book with the wonderful title, *The Great Good Place: Cafés, Coffee Shops, Community Centers, Beauty Parlors, General Stores, Bars, Hangouts, and How They Get You Through the Day*

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(Oldenburg 1989). Oldenburg is a qualitative researcher. Quantitative researchers like Robert Putnam count things – such as the number of people who join parent–teacher associations (PTAs) or bowling leagues. Qualitative sociology is closer to anthropology. Oldenburg spent a whole lot of time in bars and cafés and observed interactions there. His basic research question is: What sort of value do these spaces provide for their members?

Oldenburg argues that we all need a "third place" – a place that is neither work nor home. Work and home don't satisfy all of a person's need for social contact. Consequently, he spent years studying informal public life in a variety of settings. His findings are instructive as we begin to think about how to design online "third places."

First, Oldenburg notes that the third place should be *neutral ground*. No one is hosting and no one is a guest – those gathered are on an equal footing. It also needs a *proximate location* and long hours, so people can come and go with ease. Oldenburg notes that "the activity that goes on in third places is largely unplanned, unscheduled, unorganized, and unstructured. Here, however, is the charm. It is just these deviations from the middle-class penchant for organization that give the third place much of its character and allure that allow it to offer a radical departure from routines of home and work" (Oldenburg 1989, 33).

Oldenburg emphasizes that the third place is a leveler. He writes that "there is a tendency for individuals to select their associates, friends, and intimates from among those closest to them in social rank. Third places, however, serve to expand possibilities ... Within third places, the

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charm and flavor of one's personality, irrespective of his or her station in life, is what counts" (Oldenburg 1989, 24).

The tone of the third place is cheerful, and the mood is playful. Activity is generally unplanned. The main activity is conversation. Consequently, games best suited to the third place are those that promote conversation. For example, it's easier to chat while playing darts than while playing a video game.

The regulars (the people who reliably attend) are the heart of the third place. They serve as social glue, connecting other people who may miss one another by coming at different times. They also establish the social norms of the space – people follow the lead of the regulars in understanding how to behave.

Oldenburg observes that people arriving at the third place are greeted with different degrees of enthusiasm. Most warmly greeted is the prodigal regular – the person who everyone knows but who has been absent for a while. The regular is next most welcome, followed by a regular with a guest. Next most warmly welcomed is the pair of newcomers. The lone newcomer is slowest to be welcomed into the group. This order of acceptance captures the social dynamic – who the attendees are and how they relate to one another.

Traditional third places are often single-gender. This may be an anachronism in current times. I'll talk more about single-gender online spaces in Chapter 5.

Finally, third places often have a plain appearance. The third place is where the regulars and their friends and guests hang out, and unknown strangers are not necessarily

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welcome. In valuing fellowship and conversation, Oldenburg prefers a third place that is more like a local pub where you stop by in casual clothes than a trendy spot where you dress to impress and hope to see celebrities. These are two different styles of spaces and both have functions for different people.

While Oldenburg studied pubs and coffee shops, William Whyte did a similar study of open-air places in cities. What makes one public square fill with people when the weather is nice, and another remain empty? Whyte studied public spaces in cities, starting with parks and public squares in New York City, and found an interesting set of design criteria. First, more successful spaces are partially enclosed but still inviting. Enclosure helps create a sense of "place." However, the location needs to be visible from surrounding spaces, so people can be enticed to enter. It helps if the space has a central focus of interest – a feature to draw people in. Further, a successful public square should have affordances for human activity – like shuffleboard or chess. Whyte also notes that a good public space needs basic amenities, such as places to sit, water to drink, and restroom facilities (Whyte 1964).

Online Third Places

The study of places where face-to-face sociability is successful provides a wealth of insights for the design of online communities. We can, for example, see most of the features noted by Oldenburg and Whyte in the Mini Cooper car site. The *central feature of interest* – the thing that draws people in – is an

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interest in the Mini car brand. This also creates Whyte's *sense of enclosure* – this is not a space for anyone, but for people who have something in common (a car brand).

However, once people have arrived in this shared space, the conversation ranges well beyond cars. *Conversation is the main activity*. The space is a *leveler*, with people from a range of different backgrounds communicating on an equal footing. Activity is *unplanned*. It is *easy to access* (Oldenburg's proximate location is especially true online), and has the most accommodating hours – it is always open, and had active participants when our bereaved grandmother needed support in the middle of the night. The presence of people from multiple time zones takes Oldenburg's notion of *long hours* to a new level – even if most people in your time zone are asleep, people are awake somewhere else in the world.

Oldenburg's idealized portrait of a pub and Whyte's portrait of a city park or square are highly prototypical members of the category of "third place." As we design online spaces (like brand communities, subreddits, Facebook groups, or multi-user virtual-reality spaces), we can draw design inspiration from our knowledge of these examples.

The clearest analog between face-to-face third places and virtual ones is the role of the regulars. In an online site, some people are always there and know everyone. They form a kind of social glue between members. They can introduce you to someone else you may not have met, and catch you up on what happened while you were away. This is as strong a phenomenon on a small Facebook group or subreddit as it is in a pub.

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Furthermore, the regulars set the tone for how one behaves in a space. Since they are often there and are known by everyone, others take their cues on how to behave from the regulars. People are expected to behave differently in a tea shop versus a biker bar. The way people learn how to behave in each kind of space is through observation of others in the space, especially the regulars. Online, you also behave differently in the fun, anything-goes Mini Cooper site compared to the more traditional, proper Campbell's Soup site (as Rood discovered in her research) (Rood and Bruckman 2009). Online, the regulars are often also moderators – people empowered to decide what content is acceptable. In that case they literally establish the social norms of a site.

The visual design of a space also provides important cues on how to behave (Bruckman 1996). The architecture (big windows and high ceilings, or low ceiling and no windows?), furnishings (white table cloths or old wooden tables?), and attire of other patrons (business attire or jeans and lots of leather?) implicitly tell people who belongs in a space and how one is supposed to behave there. The visual design of online spaces can similarly communicate expectations. Communicating with design is easier in a more visual space like a 3D virtual world than a simple website, but even the simplest design communicates something by its graphics, font, and layout. Deliberately unfancy presentation also communicates expectations (Pater et al. 2014).

Face-to-face communities come in a wide variety of types – for example, members of the PTA, the people who frequent a particular café, or the kids on a youth sports team and their coaches and parents. These represent "genres" of

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community. Online groups similarly have a wide variety of genres – like health support, technical support, alumni of a particular class at a school, or people interested in a particular issue. As designers of spaces that hope to promote supportive interactions among individuals, we can draw design inspiration from what we know about other groups (on- and offline).

Social Roles

In face-to-face communities, people take on many different social roles. The same thing happens online. One early and insightful account of people taking on different roles in an online site is Richard Bartle's classic paper "Hearts, Diamonds, Clubs, Spades: Players Who Suit MUDs" (Bartle 1996). "MUD" stands for "multi-user dungeon," and MUDs were early multiplayer online games built entirely out of text. Many MUDs were a kind of Dungeons & Dragons game where you try to kill monsters and find magic treasure. Bartle observed there were four different kinds of players: achievers, explorers, socializers, and killers. Explorers like to interact with the world (finding all the unusual places); achievers like to act on the world (win the game); socializers like to interact with people; and killers like to act on other people (attacking the helpless). He presents this in a chart (Figure 1.1)

Most intriguingly, Bartle found that there is a kind of ecosystem among the different kinds, and having all four creates a social balance. For example, if the players of a MUD are all achievers, then people are obsessed with
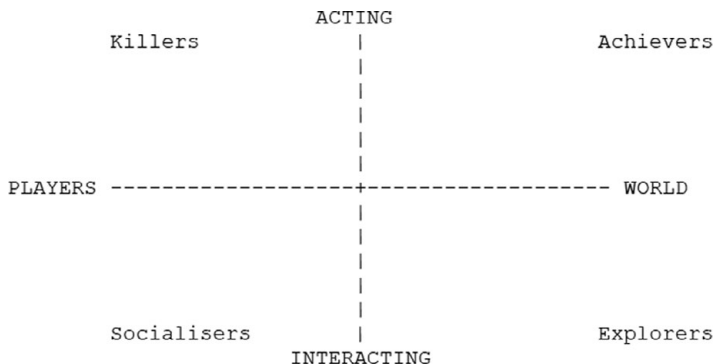
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```
                       ACTING
      Killers            |              Achievers
                         |
                         |
                         |
                         |
                         |
PLAYERS -----------------+------------------ WORLD
                         |
                         |
                         |
                         |
                         |
      Socialisers        |              Explorers
                    INTERACTING
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Figure 1.1 Player types in a MUD (Bartle 1996).

gameplay and the other players become irrelevant. If the players are all socializers, then there is no gameplay, and it might as well just be a chatroom. The presence of a few killers creates challenge for the achievers and explorers, and gives the socializers something to talk about. A balance among the four types creates more satisfying patterns of interaction.

In addition to there being lots of types of users, no person's role is static – each person plays a different role in a community over time. Every "regular" was once a new-comer. Designer Amy Jo Kim documents "the membership lifecycle" in her book *Community Building on the Web* (Kim 2000). People joining a new online community start as visitors, and then may progress to novice, regular, leader, and elder. Kim presents detailed design strategies for how a site designer/manager can support members at each of these stages – how to "welcome your visitors, instruct your novices, reward your regulars, empower your leaders, and

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honor your elders" (Kim 2000). Just like Bartle's player types, there are dynamic social balances among these different groups. We need the right number of each kind. For example, having both too many and too few novices leads to problems, relative to the number of leaders available to help the novices.

Bartle and Kim uncovered these roles through extensive, hands-on experience with online sites. In some cases, the roles aren't self-evident. Eric Gleave and colleagues note that social roles have *behavioral regularities* and *network properties* – things you do, and patterns of who you interact with (Gleave et al. 2009). You can use both qualitative and quantitative analysis methods to uncover roles in traces of online behavior. For example, analyzing data from an online discussion site, they observed three types of participants: answer people, discussion people, and discussion catalysts. Answer people do most of the work of answering questions. Discussion people talk to many others and connect conversations. Discussion catalysts tend to start long threads of conversation. Each of these roles has different things they do and different patterns of who they talk with. Figuring out what different roles people fill in a community can help a designer make sure to support each role, and encourage people to take on roles that are needed.

One final important form of participation is *listening*. Preece and Nonnecke studied lurkers in online sites – people who listen but do not contribute. They make a compelling argument that lurking is a valid form of participation in itself (everyone can't talk all the time – someone has to listen!) (Nonnecke and Preece 2000).

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Intriguingly, they found that the lurking percentage is different in discussion groups dedicated to different topics. For example, there are many more lurkers in technical support groups than in health support. In a technical support group, when a question is answered, the conversation is usually over. In a health support group, others can still chime in with personal experiences and supportive statements. As a result, the overall lurking rate is higher for technical support.

Technical support and health support are *genres* of online discussion, which tend to foster different patterns of interaction among participants. We can understand most online interaction in relation to its relevant genre, and we are still in the early stages of understanding what genres of online interaction are significant.

Social Norms

Each type of community fosters different patterns of human interaction. People behave a particular way in a technical support group compared to a health support group, and even quite differently in one technical support group versus another. Behavior can be dramatically different even across examples of the same genre of community. For example, novice questions are warmly welcomed on the subreddit r/learnpython. If a question is not clear or has been asked before, the response is still usually helpful. Beginners are welcome. In contrast, the website StackOverflow insists that all questions be new. Repeat questions and poorly formulated questions are "closed" and receive no answer. Mistakes or ignorance are not tolerated, and novices generally find the

site intimidating. The two sites are intended for different audiences, and this is communicated to people in both direct and subtle ways. What kind of behavior is encouraged and how people relate to one another are quite different across these programming support groups.

How do people in the Mini Cooper car community learn how to behave there? How did it come to pass that the rules for what is appropriate are so different in the Campbell's Soup community? "Social norms" are the unwritten rules for behavior that tend to emerge in groups. Much activity in any online group is governed by those norms. *Where do the norms come from, and how can site designers shape them?* This is the overarching, core question for much of the design of social spaces. Everything I am presenting in this book (community in this chapter, identity in Chapter 5, managing bad behavior in Chapter 6, etc.) addresses different aspects of this question.

In a study of people who share fan fiction online, Casey Fiesler found that people learn social norms, first, by observing the behavior of members of the group. The underlying values of the community shape those norms. As we saw, the regulars are key to a group. People especially observe behavior of the regular members to learn how they should behave (Fiesler and Bruckman 2019). The more a group leader is viewed as a prototypical member, the more that person can help shape group norms by behaving differently to deliberately influence others (Hogg and Reid 2006). This is why "reward your regulars" and "empower your leaders" are core maxims for online community design, in Amy Jo Kim's analysis (Kim 2000).

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The topic of the nature of social norms and how to shape them is a subject of great interest in several research fields, especially social psychology and communications (Lapinski and Rimal 2005). Regarding the design of online communities, the important point to note is how those norms emerge differently in different subgroups.

Social norms are often not followed. Members of a group may misunderstand norms, or may deliberately violate them. In Chapter 6, I'll explore how we decide what online behavior is unacceptable for a given context, and what to do about it.

Theoretical Summary

The word "community" refers to a category in the mind. In cognitive science, the theory of prototype-based categories suggests that categories are defined by best examples (Lakoff 1987; Rosch 1999). We understand members of a category in relation to members that have a high degree of typicality. For the category community, our best members might, for example, be a small town or religious congregation. When we try to understand what kind of value an online community provides for its members, we can compare design features and patterns of human association in that group to those of the most relevant face-to-face communities.

Social capital is a measure of how much people support one another in a society (Adler and Kwon 2002; Putnam 1995). People's social ties can be strong (close family and friends) or weak (acquaintances). Mark Granovetter found that weak ties are especially powerful in providing

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social capital. For example, in Granovetter's study, the majority of people who found a new job heard about the opportunity through a weak tie. Two kinds of social capital are *bonding* (among strong ties) and *bridging* (which leverages weak ties that cross social groups). Social networks are particularly good at enhancing weak ties and bridging capital (Ellison et al. 2007).

Social capital facilitated by computer networks is *persistent* and *pervasive*. It is easier to keep in touch with people we meet over the course of a lifetime, and maintain awareness of both their significant life events and day-to-day activities. This enhances our social capital, but has a side-effect of the *cost of caring* and makes us more vulnerable to the *spiral of silence* (Hampton 2016; Hampton et al. 2014, 2015).

Third places – places that are neither work nor home – provide valuable sources of social support. Studying features of face-to-face third places like pubs, cafés, and city parks can help designers of online sites (Oldenburg 1989; Whyte 1964).

In online communities, individuals take on different *social roles*. Members are at different points in the membership life cycle (Kim 2000), and even at the same stage may have self-selected different roles in the group. Social roles have different patterns of behavior and network properties (who they typically talk to), and can be uncovered through both qualitative and quantitative analysis of online activity (Gleave et al. 2009). People in different social roles create a kind of behavioral ecosystem within a group, and groups are more effective when there is a good balance among people in different roles.

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Practical Applications

Much online activity is simply individual or transactional. I order new socks, and they arrive a few days later. I search for a sports score, and a dozen sites compete to tell me who won and how the game went. However, sometimes people form groups online that are mutually supportive in interesting ways. Key concepts from sociology – social capital, strong and weak ties, bonding and bridging capital, third places, and social roles – can help us to understand those groups. Those concepts can help us to understand why some spaces are more successful than others, what kinds of support online communication can provide for members, and how to make them more effective. We can trace patterns of human association that emerge in online groups back to specific design features of the online communications platform. Analogies to face-to-face groups can provide a source of inspiration for creating innovative online sites.